IN RETROSPECT[1]

It is eighteen years since the College of Agriculture first opened its doors. They have been busy years and have left little time for meditation and introspection on what has been accomplished. But, as the Mount Maquiling climber when he has reached the first peak usually stops to view the lay of the land below him which he has so toilingly passed over, we may well pause and look in retrospect at what these eighteen years have meant to this institution and the country.

It was as early as 1908 when as a student of botany in the Philippine Normal School, then a sort of a Junior College and the highest government institution of learning, I witnessed the first labor pains that brought forth this College. Dr. E. B. Copeland, our instructor, was often absent from school on the mission of exploring locations suitable for the establishment of a College of Agriculture. It seemed obvious enough that such an institution was a necessity in a purely agricultural country, but there were many skeptics who believed it was not practicable, as the educated Filipino would not allow his son to besmirch himself in manual labor. Doctor Copeland had more faith in the youth of the land and this faith was the talisman he kept in overcoming opposition to his plans.

In June, 1909, the College was formally opened as the College of Agriculture, the first college of what was to be the University of the Philippines, with Doctor Copeland as dean. All preliminary organization was under the Bureau of Education and practically all of the first faculty, as well as most of the students, were recruited from the teaching force of the Bureau. Few of us appreciate how much we owe to the Bureau of Education, our foster-mother, nurse, and sponsor.

The plans, large, unlimited, were deeply engraved in the mind of the master builder, but nowhere else to be found, for he feared that if they were known, they would instantly arouse opposition and antagonism, for they were premised not on facts but on an ideal he had yet to demonstrate; the capacity of the Filipino to do scientific work. The big plans, rather monumental, would be apt to bewilder the onlooker who figured costs rather than results. The actualities were sorry to behold—borrowed army tents for recitation rooms, rattan stools instead of chairs, and as for desks, their number and amplitude was commensurate with the flesh one carried on his thigh. It would be difficult to find a better counterpart for Mark Hopkin's University, with himself on one end of a log and the student on the other, than our College in these first days. The results were strikingly similar. Everybody was burning with enthusiasm, all students and faculty

[1]General contribution from the College of Agriculture No. 189.

were living on ideals and hopes, the usual ethereal nourishment of the builder and the creator.

In the beginning a great share of the student body had to be paid to attend school—they were teacher pensionados detailed to study so they might return to their particular communities as apostles of better farming methods. From a humble beginning of a faculty of five, fifty students, no buildings, and eighty hectares of wild land, the College is now an institution with a faculty of eighty-eight members, about eight hundred students, sixty-one buildings, and about four hundred hectares of improved land. The number of pensionado students now is negligible, coming for the most part from the special provinces inhabited by our non-christian population.

There has been constant progress from year to year, and had we the time and space, we could make every building and improvement tell its own story of struggle before it could be put through. It would reveal to us, too, the names of staunch friends of the College, who like its builder saw visions in the institution where many others saw only a phantasma: Gilbert, White, Palma, Pablo, Albert, Yeater, Cailles, Quezon, and Wood, the Agricultural Congress, and the Hawaiian Sugar Planters Association are a few of the names that come to mind just now. There is a host of others whose interest and efforts would have borne more substantial fruits had the times been more propitious.

But the student body, the buildings, and the equipment are only the material expressions that have evolved from the deeply laid plans of the master architect. It was his dream to found here a real university college of agriculture that would be the peer of the best anywhere in the world—nothing less would be good enough for the youth of the Philippines. It was also part of his plans that it should be a live institution, not simply a dispenser of second hand information, where the imparting of knowledge would go hand in hand with its acquisition. The list of contributions that appears elsewhere in this issue is the best proof of how well the plans have materialized.

Doctor Copeland was with the College until 1917. He had built a very solid foundation and was confident that it would stand under the guidance of the man whom he chose to succeed him.

How well the foundations were laid can best be appreciated when they suffered practically no modification in the hands of the second administrator of the College.

In 1912, Professor C. F. Baker came to us as professor of agronomy, bringing with him a wealth of experience from about half a dozen countries of tropical America and the southern United States. He was enjoying the peace of congenial work in a professorial chair in a lusty American college when Doctor Copeland talked him into coming to the Philippines to lend a hand in the great task he had mapped out. The challenge was too strong to go unheeded and Professor Baker took it up. Though he is of pioneer stock, from

the Wisconsin frontiers, he was dumbfounded at the seeming hopelessness of carrying out such elaborate plans, where there was nothing but nature let loose. His recovery was swift, however, and he soon put shoulders to the wheel in making realities of dreams. Soon after Dean Copeland retired, Professor Baker was called to the Deanship. None could have continued the good work better than he. He knew the ideals of Doctor Copeland and saw to it that the well laid plans of his predecessor were carried to fruition. He is primarily responsible for the material growth of the College. The present visible superstructure is largely due to his efforts.

The College has ceased to be an experiment and an enigma; its graduates and former students all over the Islands, directly and indirectly, are serving the community and creating wealth to serve as a material foundation for a greater Philippines. The information gleaned from its laboratories is eagerly sought here and abroad. The institution is rapidly assuming its rightful place as a clearing house for agricultural information for this part of the globe for the benefit of the Philippines and the world as a whole.

The spirit of service that has been stamped on all efforts of the College by its two deans is ineffaceable and will constitute its best guarantee of a perpetual life of usefulness.

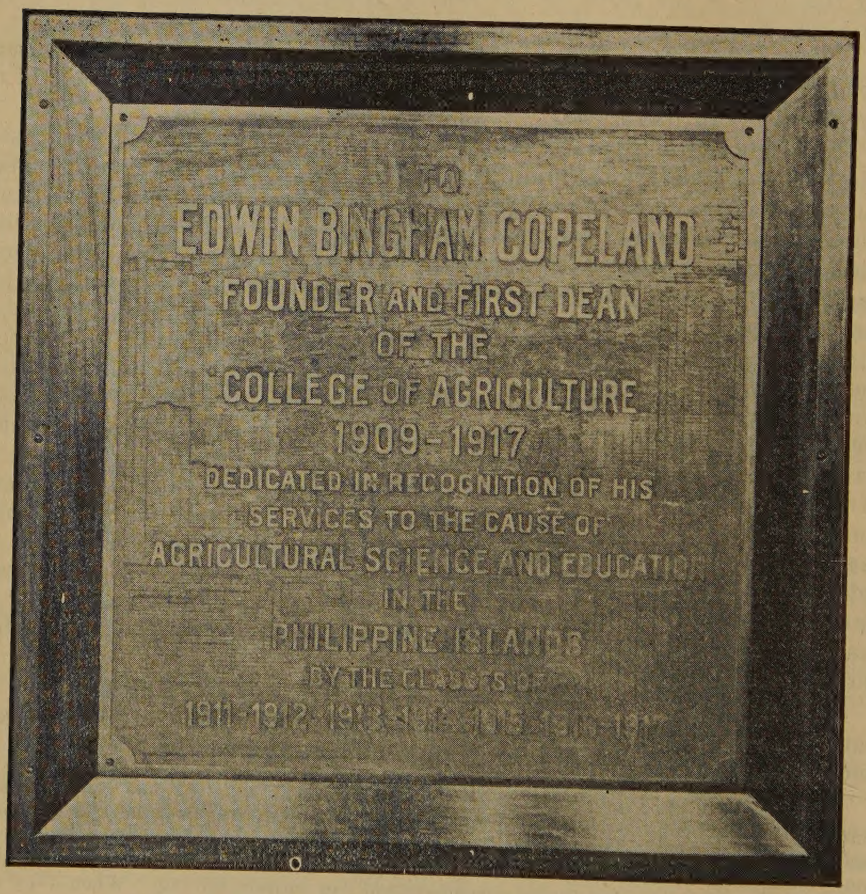
One incidental product, which however is fundamental to the existence of the College, is the training of a Filipino personnel to man it. The founder realized early the futility of expecting Americans to man institutions in the Philippines for all time. In this he was ably seconded by his successor who continued the policy with greater vigor. From the very beginning the most promising members of the student body were taken in hand and given gradually greater tasks and greater responsibilities in the conduct of the institution. Progress was always measured and advancement came as a consequence or as a reward of merit. Promotions were never forced, outside influences were unknown, and the faculty of the college is being gradually Filipinized without a jolt, without a break. There have been many great American administrators in the Philippines, but few of them realized that in the end and for the sake of continuity, Filipinos must be properly trained to take up the work, for it is an undeniable fact that the average individual service of Americans in the Philippines is ridiculously brief. When the time came for them to leave, their work was paralyzed altogether in some cases, or at best had to be continued after a fashion by inexperienced hands and with results often disastrous to public service and the work on hand.

What others think of the work in Los Baños is best illustrated by a paragraph quoted from a letter to Dean Baker from Professor Earle, oldest and most experienced American in tropical agronomy:

> The biggest of all is that bunch of boys you have been training. It has been a perfect marvel to me that you have been able to take such absolutely raw material and turn out really finished scientific workers in so short a time. I have never read a paper by one of your young chaps without being amazed by the high class work they are doing. You have made a mark that no kind of future misgovernment can entirely rub out. When a few of these trained men get into political power it will mean wonders for the future government of the islands.

Let there be no misunderstanding, let no impression be created that the College is the work of only one or two individuals. Diligent hands have come and gone, each leaving his stamp on the mosaic. Without making mention of those still with us, it is a pleasure to recall the names of the Ledyards, Cuzner, Durham, Manas, Glodt, Deming, Reinking, Hester, Ashton, Holman, Gates, McLean, Trelease, Herbert, Higgins, Gillis, Kenward, Coccanouer, Duncan, Woodworth, McWhorter, Madison, Welles, Taylor, Hall, O'Leary, and others. They all did their part and left us happy in the feeling of "work well done, thou good and faithful servant."

B. M. Gonzalez,
Of the Department of Animal Husbandry.



Bronze Tablet placed, 1918, in Administration Building by College of Agriculture Alumni

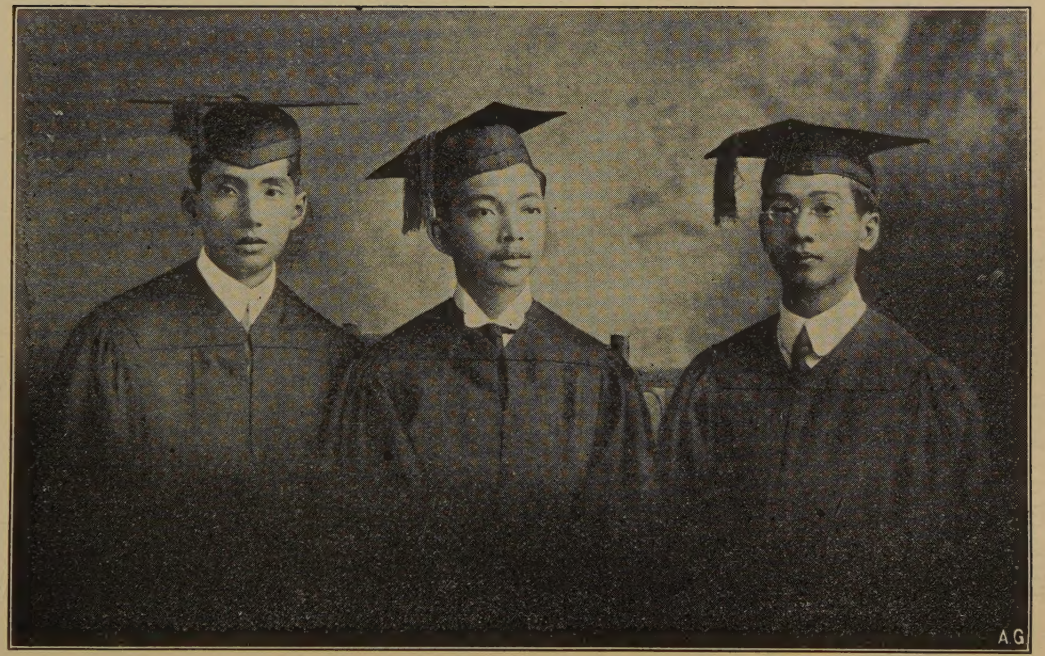
DEAN BAKER'S GREETINGS TO THE STUDENT BODY OF THE COLLEGE OF AGRICULTURE

(From *Philippinensian for 1926.*)

About fourteen years ago when I came to the campus of the College of Agriculture, very few students could be found there. The campus was largely wild land, lacking laboratories, dwellings and dormitories and most of the other things that go to make a college. One thing, however, it did *not lack*, and the continued presence of this element has made it possible to carve a great college out of the "Bunduk", to "carry on" through all discouragements and setbacks, to weather all the knockings and animadversions, and finally to bring into being a campus beautiful, laboratories fruitful, and a college spirit of which we may justly be proud. All this has been due in no small degree to the splendid *response* on the part of our students to every effort made *for them* and *with them.* In my private opinion this has been due largely to the fact that no one has ever attempted to either "lead" the students—as that world is commonly applied—or to *drive them!* They have been *co-workers with the faculty members throughout,* in innumerable ways, and in democratic and friendly ways. Faculty members have never asked students to do work that they themselves were either afraid or ashamed to do, but rather have asked students to work *with* them, from swinging a bolo in clearing, to being soaked by the same rain, stained by the same soil, greased and smutted from the same tractor engine, and to fighting on through interminable laboratory intricacies and difficult courses side by side. Our faculty members have always been hard workers and active students themselves and this is the only way in which real "leading of students may be done".

The students have taken a large part in the actual building of the College and its great indoor and outdoor laboratories, and in the elaboration of the great body of applied science which now forms the basis of all its applied instruction. All of this has meant things of the highest order of value to the students themselves, and it will continue to mean greater and greater things to the students who come after them.

This policy—the policy of the Golden Rule—the policy of co-operation, the policy of friendliness, the policy of "leading by doing," also elsewhere in the world, has built some of the most effective colleges and laboratories known. May such a policy continue to flower at the College of Agriculture through all the days!



FIRST GRADUATING CLASS, 1911

Left to right:—CLODOALDO TEMPONGKO, JOSÉ ZAMORA, MANUEL L. ROXAS

BY THEIR FRUITS YE SHALL KNOW THEM

ALUMNI OF THE COLLEGE OF AGRICULTURE

CLASS OF 1911

Bachelor of Science in Agriculture

ROXAS, MANUEL L., M.S. (Univ. Phil.), Ph. D. (Univ. Wis.)
Los Baños–College, Laguna.
Professor of Agricultural Chemistry, Head of Department, Consulting Sugar Technologist, Philippine Sugar Association.
Land Owner.

Bachelor of Agriculture

ZAMORA, JOSÉ, Master Farmer (Univ. Phil.)
957 Padre Faura, Manila.
Land Owner. Farmer.

CLASS OF 1912

Bachelor of Science in Agriculture

ALLAREY, VICENTE
Lucena, Tayabas.
Agricultural Extension Agent, Bureau of Agriculture.
Land owner.

ASUNCIÓN, SILVESTRE, M.S. (Audubon Sugar School)
Balayan, Batangas.
Farmer.

CEVALLOS, FELIPE, M.S. (Univ. Phil.), Ph. D. (Univ. Wis.)
Catarman, Samar.
Teacher, Catarman Agricultural School.
Land owner.

NAVARRO, ANDRES, M.D. (Univ. Phil.)
Aroroy, Masbate.
Farmer.

VIBAR, TORIBIO, B.S.A., M.S. (Univ. Phil.), Ph. D. (Univ. Ill.)
Los Baños–College, Laguna.
Assistant Professor of Agronomy.
Land owner.

CLASS OF 1913

Bachelor of Science in Agriculture

CRISOSTOMO, MARCELO
La Castellana, Occ. Negros.
Farmer.

LEDYARD, EDGAR M.
P. O. Box 1785, Salt Lake City, Utah, U.S.A.
Agricultural Superintendent of a Smelting Company.

Bachelor of Agriculture

ALBANO, SOTERO F.
Cebu, Cebu.
Inspector for Fiber Standardization Board.

BAGUI, FLORENCIO G.
Odiongan, Romblon.
Teacher, Odiongan Farm School.

BARTOLOME, VICENTE C.
Manila.
Secretary-Treasurer, Fiber Standardization Board.

GONZALES, BIENVENIDO M., M.S. (Univ. Wis.), D. Sc. (Johns Hopkins Univ.)
Los Baños–College, Laguna.
Professor of Animal Husbandry, Head of Department.
Land owner.

LEJANO, ANTONIO
Cebu, Cebu.
Chief Inspector for Fiber Standardization Board.
Land owner.

MUÑOZ, APOLONIO R.
Lagao, Albay.
Farmer.

VILLEGAS, VALENTE E., Ph. D. (Iowa State College)
Los Baños–College, Laguna.
Assistant Professor of Animal Husbandry.
Land owner.

CLASS OF 1914

Bachelor of Science in Agriculture

MENDIOLA, NEMESIO B., M.S. (Univ. Phil.), Ph. D. (Cornell Univ.)
Batavia, Java.
Associate Professor of Plant Breeding, College of Agriculture, U. P., Fellow, Rockefeller International Education Board. (On leave, in Java.)

CAMUS, JOSÉ S.
Manila.
Inspector-at-Large, Bureau of Agriculture.
Land owner.

GALANG, FRANCISCO
Manila.
Horticulturist, Bureau of Agriculture.
Land owner.

LAPARAN, AMANDO
Manila.
Agricultural Extension Agent, Bureau of Agriculture.
Land owner.

MERINO, GONZALO F., M.S. (Univ. Calif.)
Manila.
Chief, Division of Pest Control, Bureau of Agriculture.
Land owner.

QUISUMBING, FRANCISCO A., M.S. (Univ. Phil.), Ph. D. (Columbia)
Manila.
Assistant Professor of Chemistry, College of Liberal Arts, University of the Philippines.
Manufacturing chemist.

SABLAN, ELADIO
Manila.
Assistant Agronomist, Bureau of Agriculture.
Land owner.

TIRONA, JOSÉ P., M.D. (Univ. Phil.)
Manila.
Employee, Bureau of Health.
Land owner.

ZULAYBAR, EUTIQUIO Q.
Legaspi, Albay.
Chief Inspector for Fiber Standardization Board.

CLASS OF 1915

Bachelor of Science in Agriculture

ALDABA, VICENTE C., M.S. (Univ. Phil.), M.S., Sc. D. (Harvard Univ.)
Los Baños–College, Laguna.
Assistant Professor of Agronomy.

AURELIO, CATALINO G.
Binalbagan, Occ. Negros.
Chemist, Binalbagan Sugar Estate.
Land owner.

DACANAY, JOSÉ Q.
Manila.
Technical Assistant, Bureau of Agriculture.

MIRASOL, JOSÉ J., M.S. (Univ. Phil.), Ph. D. (Univ. Ill.)
Cebu, Cebu.
Teacher, Visayan Institute.

TEODORO, NICANOR G., M.S., Ph. D. (Univ. Wis.)
Manila.
Assistant Chief, Pest Control Division, Bureau of Agriculture.

UICHANCO, LEOPOLDO B., M.S. (Univ. Phil.), M.S., Sc D. (Harvard Univ.)
Los Baños–College, Laguna.
Associate Professor of Entomology, Acting Head of Department.
Homesteader.

Bachelor of Science in Forestry

RACELIS, ANTONIO P., M.S.F. (Mich. Univ.)
Manila.
Employee, Bureau of Forestry.
Land owner.

VILLAMIL, ANICETO
Dumaguete, Oriental Negros.
Farmer.

Bachelor of Agriculture

CAPISTRANO, SEVERO M.
Ames, Iowa. U.S.A.
Bureau of Agriculture Pensionado, Iowa State College of Agriculture.
Land owner.

CONSTANTINO, AGRIPINO
Morong, Rizal.
Supervising Teacher, Bureau of Education.
Homesteader.

ESPINO, RAFAEL B., Ph. D. (Johns Hopkins Univ.)
Los Baños–College, Laguna.
Associate Professor of Plant Physiology.
Land owner.

GHOFULPO, TEODORO G.
107 Monterey St., Gilroy, California, U.S.A.
Occupation not reported.

LABAYEN, SEGUNDO D., M.S. (Audubon Sugar School)
Binalbagan, Occ. Negros.
Factory Superintendent, Binalbagan Sugar Estate.

MARQUEZ, FRANCISCO D.
Manila.
Assistant Chief, Agricultural Extension Division, Bureau of Agriculture.
Land owner.

MIRAFLORES, JOSÉ C.
Victorias, Occ. Negros.
Factory Superintendent, Victorias Milling Co.

MONTELLANO, PEDRO L., M.S. (Univ. Wis.)
Catarman, Samar.
Teacher, Catarman Agricultural School.
Land owner.

OCFEMIA, GERARDO O., M.S. (Univ. Phil.), Ph. D. (Univ. Wis.)
Los Baños–College, Laguna.
Assistant Professor of Plant Pathology, Acting Head of Department.

OCTUBRE, FRANCISCO P.
Rosales, Pangasinan.
Assistant Agronomist, Bureau of Agriculture.
Land owner.

PAÑGANIBAN, ELIAS H., B.S.A., M.S. (Univ. Phil.), Ph. D. (Cornell Univ.)
Farraron, Fabrica, Occ. Negros.
Farmer.

SARMIENTO, RAMÓN O.
Batangas, Batangas.
Extension Agent, Bureau of Agriculture.
Land owner.

VELEZ, BLAS C.
San José, Mindoro.
Technical employee, Tamaraw Plantation Co.

VICENCIO, ARSENIO S.
Manila.
Agricultural Extension Agent, Bureau of Agriculture.
Land owner.

VISTA, TOMAS I., M.S. (Univ. Phil.)
Rizal, Laguna.
Farmer.

CLASS OF 1916

Master of Science

CLINTON, GUY, B.S. (Shenandoah College)
Washington, D.C., U.S.A.
Employee, Bureau of Insular Affairs.

ELAYDA, INOCENCIO, B.S.A. (Iowa State College of Agriculture)
Los Baños–College, Laguna.
Director, Extension Division, College of Agriculture.
Land owner.

Bachelor of Science in Agriculture

PAGUIRIGAN, DOMINGO B., M.S. (Conn. Agric. College)
Ilagan, Isabela.
Inspector, Ilagan Tobacco Station, Bureau of Agriculture.
Land owner.

Bachelor of Agriculture

BACOMO, PANTALEON U.
Cuyo, Palawan.
Teacher, Bureau of Education, Palawan.
Land owner.

BALANGUE, CORNELIO R.
Tuguegarao, Cagayan.
Agricultural Extension Agent, Bureau of Agriculture.
Land owner.

CAGURANGAN, ALFONSO B.
Ilagan, Isabela.
Teacher, Bureau of Education.
Land owner.

CONSTANTINO, MARCELINO
Manila.
Assistant Agriculturist, Bureau of Agriculture.
Land owner.

CONSUNJI, GAUDENCIO
Hermosa, Bataan.
Farmer.

CRUZ, FLORENTINO F., Master Farmer (Univ. Phil.)
Lorugan Cattle Co., Bukidnon.
Cattle Rancher.

DAWIS, VICENTE M., B.S.A. (Univ. Phil.)
Los Baños–College, Laguna.
Assistant Farm Superintendent, College of Agriculture.

LEON, JOSÉ DE
Tanauan, Batangas.
Assistant Horticulturist, Bureau of Agriculture.
Homesteader.

PALAFOX, GAUDENCIO
Naguilian, La Union.
In Charge, La Union Tobacco Experiment Station.
Land owner.

CLASS OF 1917

Bachelor of Science in Agriculture

ABADILLA, FRANCISCO
Lucena, Tayabas.
Farmer.

FRANCISCO, GREGORIO M., Master Farmer (Univ. Phil.)
Santa Rosa, Nueva Ecija.
Farmer.

GUTIERREZ, MARIANO E.
Surunayau, Dulauan, Cotabato.
In Charge, Tobacco Station, Bureau of Agriculture.
Land owner.

MEDALLA, MARIANO, M.S. (Univ. Phil.)
Bacolod, Occ. Negros.
Farmer.

MENDOZA, LEOPOLDO G.
Mabatobato, Pili, Camarines Sur.
Farmer.

SARAO, FELIX B., M.S. (Univ. Wis.)
Los Baños–College, Laguna.
Instructor in Animal Husbandry, College of Agriculture.

SILAYAN, HILARION, M.S. (Univ. Calif.)
Manila.
Irrigation work, Bureau of Public Works.

Bachelor of Agriculture

CALIÑGASAN, TEOFILO
Malaybalay, Bukidnon.
Farmer.

EDROSO, LEON
Abulug, Cagayan.
Farmer. Administrator Somigui Farming Colony.

FLORES, SIMEON
Dumaguete, Oriental Negros.
Teacher, Provincial High School.

GOCO, ARSENIO A.
Imus, Cavite.
Farmer.

GRAGEDA, GREGORIO
Mati, Davao.
Farmer.

PASTORFIDE, DIONISIO B.
Marinduque.
Farmer.

PAULICAN, CENON
Dagumbaan Cattle Ranch, Bukidnon.
Cattle Rancher.

REYES, SIMEON
Cebu, Cebu.
Plant Inspector, Plant Quarantine Office.

VILLYAR, PAUL
Manila.
Horticulturist, Bureau of Agriculture.
Land owner.

CLASS OF 1918

Master of Science

COCANNOUER, JOSEPH A., B. Agr.
High School, Chowchilla, California, U.S.A.
Connected with a Soil Bacteria Company.

Bachelor of Science in Agriculture

BAUTISTA, PANTALEON
Malabon, Rizal.
Farmer.

TRINIDAD, JOSÉ
Manila.
Agricultural Assistant, Bureau of Non-Christian Tribes.
Land owner.

Bachelor of Agriculture

AFRICA, EMILIO A.
Sariaya, Tayabas.
Farmer.

ARAGON, VICENTE
Muños, Nueva Ecija.
Farm Superintendent, Central Luzon Agricultural School.
Land owner.

BAUTISTA, BASILIO
Alabang, Rizal.
Assistant Agronomist, Bureau of Agriculture.
Land owner.

BAYLA, ARSENIO
Madison, Wisconsin, U.S.A.
Bureau of Agriculture Pensionado (Univ. Wis.)

FESTIN, SANTIAGO
Manila.
Inspector, Bureau of Internal Revenue.
Land owner.

MACASAET, VALENTIN
San Ramón, Zamboanga.
Superintendent, San Ramón Penal Colony.

MARIANO, JOSÉ
Bigaa, Bulacan.
Farmer.

OTANES, FAUSTINO, B.S., M.S. (Univ. Ill.)
Manila.
Entomologist, Bureau of Agriculture.

PAZ, ALFONSO DE LA
Address unknown.
Student in the United States.

QUISUMBING, EDUARDO, Ph. D. (Univ. Chicago)
Berkeley, California, U.S.A.
Assistant Professor of Plant Physiology, College of Agriculture, U. P. Fellow, National Research Council. University of California. (On leave, in Calif.)
Land owner.

SAMONTE, CLARO
Bayombong, Nueva Viscaya.
Technical Assistant, Bureau of Non-Christian Tribes.

SANTOS, FRANCISCO B.
Iwahig, Palawan.
Agricultural Assistant, Iwahig Penal Colony.

SANTOS, GREGORIO
Manila.
Assistant Horticulturist, Bureau of Agriculture.

TEODORO, ANASTACIO, M.S. (Cornell Univ.)
Ithaca, New York.
Fellow, University of the Philippines in Cornell Univ.

CLASS 1919

Master of Science

SANTOS, FRANCISCO O., A.B., M.S. (Univ. Phil.), Ph. D. (Yale Univ.)
Los Baños–College, Laguna.
Associate Professor of Chemistry.
Land owner.

Bachelor of Science in Agriculture

CHANCO, ANTONIO R., D.D.S. (National Univ.)
Naga, Camarines Sur.
Red Cros Dentist.

HABALUYAS, RAMON K., M.S. (Univ. Phil.)
Malabon, Rizal.
Sugar Chemist, Malabon Sugar Co.

VENTURA, TRANQUILINO
San Fernando, Pampanga.
Sugar Chemist, Pampanga Sugar Development Company.

Bachelor of Agriculture

ADRIANO, FELIPE T., M.S. (Univ. Phil.), Ph. D. (Cornell Univ.)
Los Baños–College, Laguna.
Assistant Professor of Chemistry.
Land owner.

ALCASID, EZEQUIEL
Alabang, Rizal.
Superintendent, Alabang Stock Farm, Bureau of Agriculture.
Land owner.

CABANOS, JUAN B.
Manila.
Assistant Agriculturist, Bureau of Agriculture.

COLLADO, ESTEBAN, B.S.A., M.S. (Univ. Phil.)
Los Baños–College, Laguna.
Instructor in Chemistry.

DARIO, LEONCIO
Laoag, Ilocos Norte.
Agricultural Extension Agent, Bureau of Agriculture.

DAVID, PEDRO A., B.S.A., M.S. (Univ. Phil.)
Los Baños–College, Laguna.
Instructor in Agronomy.

ESGUERRA, JOSÉ P., B.S.A. (Univ. Phil.)
Los Baños–College, Laguna.
Animal Husbandman, College of Agriculture.

ESGUERRA, JUAN D.
Aliaga, Nueva Ecija.
Farmer.

FRONDA, FRANCISCO M., Ph. D. (Cornell Univ.)
Los Baños–College, Laguna.
Assistant Professor of Animal Husbandry.

GONZALEZ, JOAQUIN J.
Apalit, Pampanga.
Farmer.

HARDER, TOMAS
Bacolod, Occ. Negros.
Crop Reporter, Philippine National Bank.

HERNANDEZ, NEMESIO
Sarunayan, Cotabato.
Agricultural Assistant, Bureau of Agriculture.

HIDALGO, VICENTE
Dumarao, Capiz.
Superintendent, Dumarao Stock Farm.

LAGO, FRANCISCO P., B.S.A. (Univ. Phil.)
Lopez, Tayabas.
Farmer.

LEANO, BENEDICTO C.
Lipa, Batangas.
Agricultural Extension Agent, Bureau of Agriculture.
Land owner.

LIPAYON, ANASTACIO
Nelson, California.
Farmer.

MANIO, MELECIO
San Isidro, Nueva Ecija.
Teacher, Provincial High School.

NARABAL, TIBURCIO
Address unknown.
Student in the United States.

NISCE, TEOFILO
San Fernando, La Union.
Farmer.

NOGUERRA, JOSÉ
Batangas, Batangas.
Assistant Animal Husbandman, Bureau of Agriculture.

PADOLINA, FELIPE
Lamao, Bataan.
Agricultural Assistant, Lamao Experiment Station, Bureau of Agriculture.

PERALTA, FERNANDO DE, B.S.A., M.S. (Univ. Phil.)
Los Baños–College, Laguna.
Instructor in Plant Physiology.
Land owner.

RED, FRANCISCO R.
Guinobatan, Albay.
Agricultural Extension Agent, Bureau of Agriculture.

ROLDAN, EMILIANO F., B.S.A., M.S. (Univ. Phil.)
Urbana, Ill.
Fellow, University of the Philippines in Univ. of Ill.

SABADO, RAYMUNDO, B.S.A (Univ. Phil.)
San Fernando, La Union.
Teacher, Provincial High School.

SERRANO, FELICISIMO B.
Manila.
Assistant Plant Pathologist, Bureau of Agriculture.

SULIT, VICTOR, B.S.A., M.S. (Univ. Phil.)
Los Baños–College, Laguna.
Instructor in Chemistry.
Land owner.

TORRES, JUAN P., Ph. D. (Cornell Univ.)
Alabang, Rizal.
Plant Breeder, Bureau of Agriculture.

VILLADOLID, DEOGRACIAS V., B.S.A., M.S. (Univ. Phil.), Ph. D. (Stanford Univ.)
Los Baños–College, Laguna.
Instructor in Entomology.

YAP, GERMAN
Tagbilaran, Bohol.
Merchant.

CLASS OF 1920

Bachelor of Science in Agriculture

DERECHO, ANTONIO
Cebu, Cebu.
Agricultural Extension Agent, Bureau of Agriculture.
Land owner.

GUZMAN, ISIDORO
Cabagan, Isabela.
Teacher, Cabagan Farm School.

JURADO, MARIANO
San Fernando, La Union.
Agricultural Extension Agent, Bureau of Agriculture.

MANIO, RAMÓN V.
San Marcos, Bulacan.
Agronomist for Calumpit Sugar Central.

PADLAN, POLICARPO
Iloilo, Iloilo.
In Charge, La Paz Demonstration Station, Bureau of Agriculture.

PAÑGANIBAN, SIMEON
Malabang, Lanao.
Technical Assistant in Agriculture for Province of Lanao.
Land owner.

PAULINO, PEDRO
Lamao, Bataan.
Assistant, Bureau of Agriculture.
Land owner.

REYES, GAUDENCIO M.
Manila.
Assistant Pathologist, Bureau of Agriculture.

Bachelor of Agriculture

AFRICA, ANGEL, B.S.A., M.S. (Univ. Phil.)
Zamboanga, Zamboanga.
Teacher, Provincial High School.

CANONIZADO, MAXIMO P.
Santa Cruz, Laguna.
Teacher, Bureau of Education.

CAPINPIN, JOSÉ M., B.S.A., M.S. (Univ. Phil.)
Los Baños–College, Laguna.
Assistant in Agronomy.

CARANDANG, ATANACIO T., B.S.A. (Univ. Phil.)
Canlubang, Laguna.
Agronomist, with Calamba Sugar Estate.

CATALAN, NEMESIO A., B.S.A. (Univ. Phil.)
Los Baños–College, Laguna.
First Lieutenant, Philippine Scouts, U. S. Army. On detail as student, College of Veterinary Science.

CAZEÑAS, GREGORIO D.
Bago, Occ. Negros.
Field Inspector, Maao Sugar Central.

Clara, Feliciano H.
Manila.
Assistant Pathologist, Bureau of Agriculture.

Collado, Isidoro R., B. Div. (Iliff School Theol., Denver), M.A. (Georgetown Univ.)
Vigan, Ilocos Sur.
Clergyman, Vigan Baptist Mission.

Corrales, José P.
Mambajao, Misamis.
Farmer.

Elayda, Aniano R.
Manila.
Assistant Horticulturist, Bureau of Agriculture.
Land owner.

Estalilla, Hilarion H.
San José, Mindoro.
Technical Employee, Mindoro Sugar Company.

Festin, Simplicio F.
Odioñgan, Romblon.
Farmer.

Goseco, Andres P.
Manila.
Fertilizer Agent, Filma Mercantile Co.
Land owner.

Isidoro, Rufino
Manila.
Soil Analyst, Bureau of Agriculture.

Jamias, Julio M.
Binalbagan, Occ. Negros.
Agronomist, Binalbagan Sugar Estate.

Labrador, Anselmo F.
La Carlota, Occ. Negros.
Agricultural Assistant, La Carlota Experiment Station, Bureau of Agriculture.

Limbo, Anastacio M.
Malaybalay, Bukidnon.
Industrial Supervisor, Bureau of Education.

Lizaso, Juan G.
Bacolod, Occ. Negros.
Farmer.

Lontok, Ambrosio M.
Manila.
Agricultural Extension Agent, Bureau of Agriculture.

Lontok, Gregorio B., B.S.A. (Univ. Phil.)
Binalbagan, Occ. Negros.
Assistant Pathologist, Binalbagan Sugar Estate.

Luistro, Fernando
Isabela de Basilan, Zamboanga.
Farmer.

MACEDA, FELIX
Tagbilaran, Bohol.
Agricultural Extension Agent, Bureau of Agriculture.
Homesteader.

MANGONON, ALEJANDRO S.
Residence in the United States.
Occupation and address not reported.

MARIANO, SEVERO J., M.S. (State Univ. Louisiana)
Botica Boie, 95 Escolta, Manila.
Fertilizer Agent.
Land owner.

MORADA, JULIAN A.
Naga, Camarines Sur.
Farmer.

MORADA, EMILIO K.
Lamao, Bataan.
Assistant Horticulturist, Bureau of Agriculture.

PALAFOX, SERAPIO M.
Address not known.
Student in the United States.

PUGEDA, MELQUIADES S.
Indang, Cavite.
Teacher, Indang Farm School.

ROJALES, PEDRO S.
Butuan, Agusan.
Farmer.

TOMANENG, ROMAN G.
Los Baños–College, Laguna.
Student, College of Veterinary Science.

VILLANUEVA, CRISPIN B.
Cotabato, Cotabato.
Clerk, Provincial Fiscal's Office.

VILLARAZA, MARIANO F.
Manila.
Inspector for Fiber Standardization Board.
Land owner.

CLASS OF 1921

Bachelor of Science in Agriculture

ALAS, TEOFILO P.
Tayug, Pangasinan.
Director, Tayug Institute.

CHANDRASTITYA, IANG
Nagor Potham, Siam.
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MEDINA, MELQUIADES L.
La Carlota, Occ. Negros
Assistant Agronomist, La Carlota Station.
Land owner.

Minano, Geronimo M.
Cebu, Cebu.
In Charge, Animal Breeding Station, Bureau of Agriculture.

Pereira, Eufermiano de Braganza
Otorda, Goa, Salceter, Portuguese India.
Occupation not reported.

Sison, Pedro L.
Manila.
Plant Inspector, Bureau of Agriculture.

Taleon, Alejo T., B.S.A., M.S. (Univ. Phil.)
Los Baños–College, Laguna.
Instructor in Animal Husbandry.

Bachelor of Agriculture

Alcaraz, Felix
Alabang, Rizal.
Agricultural Assistant, Bureau of Agriculture.

Abesamis, Ambrosio
Bayombong, Nueva Vizcaya.
In charge, Stock Farm, Bureau of Agriculture.

Agati, Julian, B.S.A. (Univ. Phil.)
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Alas, Benedicto C. de las, B.S.A. (Univ. Phil.)
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Instructor in Mathematics.

Aldaba, Victor C.
Tanauan, Batangas.
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Aquino, Dionisio I., B.S.A. (Univ. Phil.)
Ames, Iowa, U.S.A.
Student, Iowa State College of Agriculture.

Asunción, Rodolfo R.
Bulan, Sorsogon.
Farmer.

Baybay, Domingo
Guinobatan, Albay.
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Land owner.

Bernardo, Francisco, B.S.A. (Univ. Phil.)
Iloilo, Iloilo.
Teacher, Provincial High School.

Caray, Elias M., B.S.A., M.S. (Univ. Phil.)
Basco, Batanes.
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Cendaña, Silverio M., B.S.A. (Univ. Phil.)
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Assistant in Entomology.

DIVINAGRACIA, DELFIN, B.S.A. (Univ. Phil.)
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FERRER, TOMAS G.
Cabagan, Isabela.
Tobacco Inspector, Bureau of Agriculture.

GOCO, LORENZO, B.S.A. (Univ. Phil.)
Calapan, Mindoro.
Teacher, Calapan High School.
Land owner.

GRANO, MOISES S. DE
Butuan, Agusan.
Supervising Teacher, Bureau of Education.
Land owner.

GUEVARRA, CAMILO C.
Indang, Cavite.
Teacher, Indang Farm School.

JIMENEZ, ALEJO L., B.S.A. (Univ. Phil.)
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Instructor, Manila College of Pharmacy.

LACSON, PRUDENCIO S.
Manila.
Teacher, Tondo Intermediate School.

MANZA, ARTEMIO V., B.S.A. (Univ. Phil.)
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Student, University of California.

MARQUEZ, SEVERO L.
Manila.
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NERIC, JUAN I.
Virac, Catanduanes, Albay.
Principal Teacher, Catanduanes Farm School.

OBIAS, FELICISIMO C.
Pili, Camarines Sur.
Principal, Agricultural School.

REYES, ANTONIO S., B.S.A. (Univ. Phil.)
Cuyapo, Nueva Ecija.
Teacher, Cuyapo Institute.

REYES, RUFO
Sinoloan, Laguna
Occupation not reported.

REYES, TEODORICO P., B.S.A., M.S. (Univ. Phil.)
Honolulu, Hawaii.
Technical Employee, California Packing Corporation.

RICAFRENTE, QUIRINO P.
Daet, Camarines Norte.
Teacher, Provincial High School.

RODRIGO, PEDRO A., B.S.A., M.S. (Univ. Phil.)
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Assistant in Agronomy.

Salinas, Leonardo
Batac, Ilocos Norte.
Teacher, Batac Farm School.

Salva Cruz, Sebastian R.
Magalang, Pampanga.
Teacher, Magalang Farm School.
Land owner.

Soliven, Florencio A., B.S.A., M.S. (Univ. Phil.)
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Unite, Juan O., B.S.A., M.S. (Univ. Phil.)
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Momungan Colony, Lanao.
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Zabella, Gaudencio C.
Tayabas, Tayabas.
Farmer.

CLASS OF 1922

Bachelor of Science in Agriculture

Babao, Santiago
San Juan de Bolboc, Batangas.
Farmer.

Baltazar, Eulalio Perez
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Land owner.

Gamboa, Fermin J., M.S. (Univ. Phil.)
Jaro, Iloilo
Farmer.

Gonzalez, Leon G., A.B. (Univ. Phil.), M.S. (Univ. Phil.)
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Maggay, Hilario T.
Ilagan, Isabela.
Agricultural Assistant, Ilagan Tobacco Station, Bureau of Agriculture.
Land owner.

Rayos, Catalino R.
Manila.
Instructor, University of Manila.

Royeca, Simeon G.
Lingayen, Pangasinan.
Teacher, Provincial High School.

Sanchez, Antonio C.
La Carlota, Occ. Negros.
In Charge, Animal Husbandry Work, La Carlota Station, Bureau of Agriculture.

Santos, Severino R.
Hagonoy, Bulacan.
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Bachelor of Agriculture

Abrajano, Quirico F., B.S.A. (Univ. Phil.)
San Narciso, Zambales.
Teacher, San Narciso Academy.

Almazan, Pascual A.
San Pablo, Laguna.
Teacher, San Pablo Intermediate School, Bureau of Education.

Aquino, Severino S.
San Carlos, Pangasinan.
Occupation not reported.

Bacol, Simeon D.
Tagbilaran, Bohol.
Teacher, Provincial High School.

Bagui, Crispulo G.
Batangas, Batangas.
Teacher, Bureau of Education.

Buenaventura, Agapito E.
Cabagan, Isabela.
Teacher, Cabagan Farm School.

Collado, Tomas G., B.S.A. (Univ. Phil.)
Canlubang, Laguna.
Agronomist, Calamba Sugar Estate.

Corcino, Baltazar A.
Mambusao, Capiz.
Farmer.

Dadufalza, Tomas D., B.S.A. (Univ. Phil.)
Bayombong, Nueva Vizcaya.
Teacher, Provincial High School.

Esguerra, Felix M., B.S.A. (Univ. Phil.)
Cotabato, Cotabato.
Teacher, Cotabato Farm School.

Estioko, Roman P., B.S.A. (Univ. Phil.)
Los Baños–College, Laguna.
Assistant in Plant Physiology.

Estrada, Alberto A., B.S.A. (Univ. Phil.)
San Fernando, Pampanga.
Teacher, Provincial High School.

Frigillana, Generoso R.
San Carlos, Pangasinan.
Principal, San Carlos Farm School.

HERNAIS, PEDRO R.
Baguio, Mt. Province.
Teacher, Benguet High School.

HERNANDEZ, BASILIO, B.S.A. (Univ Phil.)
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LASERNA, ERNEDO L., B.S.A. (Univ. Phil.)
Santa Rosa, Laguna.
Farmer.

MAGSINO, JUAN R.
Manila.
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MARILAO, VENERANDO P.
Maao, Bago, Occ. Negros.
Farmer.

MENDOZA, FRANCISCO M.
Isabela, Occ. Negros.
Manager of Hacienda Socorro.

MONCERATE, BENITO N.
San Joaquin, Iloilo.
Farmer on homestead.

NOVERO, TEOFILO F., B.S.A. (Univ. Phil.)
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Assistant in Agronomy.

PADILLA, BONIFACIO
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PELINO, ANACLETO R.
Indang, Cavite.
Occupation not reported.

PEÑA, DANIEL R., B.S.A. (Univ. Phil.)
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PIGUING, RAFAEL M., B.S.A. (Univ. Phil.)
Berkeley, California.
Student, College of Agriculture, Univ. California.

PONCE, BASILIO F.
San José de Buenavista, Antique.
Teacher, Provincial High School.

PULGAR, GERMAN M.
Lingayen, Pangasinan.
Teacher, Provincial High School.

PUNZALAN, EDILBERTO S., B.S.A. (Univ. Phil.)
Victorias, Occ. Negros.
Assistant Agronomist, Victorias Milling Co.

ROCAFORT, ANTONIO L., B.S.A. (Univ. Phil.)
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Assistant in Physics.

ROQUE, DAMASO
Canlubang, Laguna.
Technical Employee, Calamba Sugar Estate.

SAGUN, CASIMIRO B., B.S.A. (Univ. Phil.)
Muñoz, Nueva Ecija.
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SARMIENTO, VALERIANO M., B.S.A. (Univ. Phil.)
Lincoln, Nebraska, U.S.A.
Student.

SERRANO, CIRIACO B., B.S.A. (Univ. Phil.)
Banban, Tarlac.
Chemist, Tarlac Sugar Central.

SORIANO, ANTONIO M.
Lingayen, Pangasinan.
Teacher, Provincial High School.

TELLADO, FELIX S.
Sandakan, British North Borneo.
Technical Employee, Bureau of Agriculture.

VIADO, BASILIO O.
Indang, Cavite.
Teacher, Indang Farm School.

CLASS OF 1923

Bachelor of Science in Agriculture

ANTENOR-CRUZ, GREGORIO J.
Hacienda Filomena, Isabela, Occ. Negros.
Farmer.

AQUINO, EMILIO CABRERA
Pagsanjan, Laguna.
Farmer.

BENGSON, ARTURO
Manila.
Tobacco Inspector, Bureau of Agriculture.

CELIS, EUGENIO C.
Davao, Davao.
Teacher, Mampising Agricultural School.

CRISANTO, JOSÉ
....., Bukidnon.
Cattle Rancher.

CRUZ, SEGUNDO MANUEL
Pasig, Rizal.
Teacher, Provincial High School.

JAOJOCO, FELIPE M., D.V.M. (Univ. Phil.)
Biñan, Laguna.
Farmer.

JULIANO, JOSÉ B.
Los Baños-College, Laguna.
Assistant in Plant Physiology.

Leoncio, Martin O.
Cebu, Cebu.
Chemist, Government Cement Co.

Mabbun, Pablo N.
Los Baños–College, Laguna.
Instructor in Economics.

Olofernes, Bernabe Agero
Cebu, Cebu.
Teacher, Provincial High School.

Opiana, Gil O.
Manila.
Assistant Chemist, Bureau of Science.

Reyes, José Chico
Magalang, Pampanga.
Teacher, Magalang Farm School.

Rowan, Anastacio S.
Capiz, Capiz.
Teacher, Capiz Farm School.

Sadorra, Nazario M.
Muñoz, Nueva Ecija.
Teacher, Central Luzon Agricultural School.

Talento, Apolinar S.
Baguio, Mt. Province.
Teacher, Trinidad Farm School.

Teruel, Eusebio Taleon
Tigbauan, Iloilo.
Teacher, Tigbauan Institute.

Tuason, Nicasio A.
Talacag, Bukidnon.
Cattle Rancher.

Zamuco, Calixto T.
Los Baños–College, Laguna.
Assistant in Agronomy.

Bachelor of Agriculture

Acuña, Eulogio M.
Indang, Cavite.
Teacher, Indang Farm School.

Carreon, Felix D.
Binalbagan, Occ. Negros.
Technical Employee, Binalbagan Sugar Estate.

Cruz, Ramon A., B.S.A. (Univ. Phil.)
Malabon, Rizal.
Chemist, Malabon Sugar Refinery Co.

Desembrana, Basilio D.
Mauban, Tayabas.
Occupation not reported.

DIMAANO, JOSÉ L.
Tanauan, Batangas.
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FERRER, LAUREANO G., B.S.A. (Univ. Phil.)
Alcala, Cagayan.
Tobacco Inspector, Bureau of Agriculture.

FLORES, GERONIMO L.
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Assistant in Soils and Fertilizers, Bureau of Science.

GAVARRA, PERPETUO A.
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LOMIBAO, PATRICIO
San Carlos, Pangasinan.
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LOPEZ, ENRIQUE
Quingua, Bulacan.
Farmer.

MALABANAN, PEDRO L.
Lipa, Batangas.
Farmer.

MAMARIL, JULIAN A., B.S.A. (Univ. Phil.)
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NACION, CIPRIANO C., B.S.A. (Univ. Phil.)
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PAGLINAWAN, SERGIO B.
Bacaycay, Albay.
Farmer.

PAGSOLINGAN, JUAN G.
San Carlos, Pangasinan.
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REVECHE, FELICIANO R.
Sorsogon, Sorsogon.
Farmer.

RODRIGUEZ, AGUSTIN Y.
Tacloban, Leyte.
Farmer.

SAN JOSÉ, PRIMO C.
Kudurangan, Cotabato.
Teacher, Piang Agricultural School.

San Juan, José Mañalac
Muñoz, Nueva Ecija.
Teacher, Central Luzon Agricultural School.

Tenebro, Magno T.
Sibonga, Cebu.
Teacher, Bureau of Education.

CLASS OF 1924

Bachelor of Science in Agriculture

Aldaba, Salvador
Malolos, Bulacan.
Occupation not reported.

Barros, Francisco B.
Bangued, Abra.
Teacher, Bureau of Education.

Caserano, Cirilo
Rosales, Pangasinan.
Farmer.

Cavillero, Plácido
Dueña, Iloilo.
Occupation not reported.

Danguilan, Luis J.
Bayombong, Nueva Vizcaya.
Teacher, Bayombong Farm School.

Limuaco, Mamerto E.
Pagsanjan, Laguna.
Occupation not reported.

Madamba, Ulpiano V.
Ilagan, Isabela.
Agricultural Assistant, Ilagan Tobacco Station.

Mariano, Filomeno S.
Ilagan, Isabela.
Tobacco Inspector, Bureau of Agriculture.

Resananda, Thongdee Nai
Korat, Siam.
Teacher, Agricultural Teachers' Training School.

Tolentino, Andres F.
Vigan, Ilocos Sur.
Teacher, Provincial High School.

Tolentino, Ramon P.
Los Baños–College, Laguna.
Assistant in Physical Education.

Turgano, Hilario M.
Basco, Batanes.
Teacher, Provincial High School.

Bachelor of Agriculture

BATACLAN, EUSEBIO A., B.S.A. (Univ. Phil.)
Los Baños–College, Laguna.
Assistant in Mathematics.

CALMA, POLICARPO C.
Pasig, Rizal.
Teacher, Provincial High School.

CASTRO, MIGUEL G.
Zamboanga, Zamboanga.
Teacher, Provincial High School.

CATAMBAY, ALEJANDRO B., B.S.A. (Univ. Phil.)
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ENERVA, EPIFANIO
San Carlos, Pangasinan.
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IMATONG, SEVERINO B.
Piat, Cagayan.
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MANUEL, CANUTO G., B.S.A. (Univ. Phil.)
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Teacher, Bureau of Education.

MONTEMAYOR, ZÓSIMO T.
Los Baños–College, Laguna.
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OCAMPO, MIGUEL R.
Los Baños–College, Laguna.
Student, College of Agriculture

PALO, MACARIO, B.S.A. (Univ. Phil.)
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PAÑGANIBAN, FRANCISCO C.
Surigao, Surigao.
Agricultural Extension Agent, Bureau of Agriculture.

PRONTO, JUAN R., B.S.A. (Univ. Phil.)
Iloilo, Iloilo.
Instructor, Central Philippine College.

Rayrao, Timoteo M.
Bayombong, Nueva Vizcaya.
Teacher, Bayombong Farm School.

Reyes, Marciano A.
Silay, Occ. Negros.
Technical Employee, Silay–Talisay Milling Co.

Sibal, Enrique M.
Banban, Tarlac.
Farmer.

Tan, José P.
Lucena, Tayabas.
Clerk, Provincial Governor's Office.

Torres, Eladio
Batac, Ilocos Norte.
Teacher, Batac Farm School.

Yango, Clemente E., B.S.A. (Univ. Phil.)
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Assistant in Agronomy.

CLASS OF 1925

Bachelor of Science in Agriculture

Cabailo, Benjamin C.
Manila.
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Gaerlan, Sixto A.
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Guiang, Alejandro C., B.S.A. (Univ. Phil.)
Canlubang, Laguna.
Technical Employee, Calamba Sugar Estate.

Guanzon, Getulio
Los Baños–College, Laguna.
Assistant in Chemistry.

Hautea, Pablo L.
Cebu, Cebu.
Inspector for Fiber Standardization Board.

Jesus, Francisco de
Los Baños–College, Laguna.
Assistant in Chemistry.

Lagoc, Santiago
Davao, Davao.
Inspector for Fiber Standardization Board.

Luzuriaga, Antonio R. de
Bacolod, Occ. Negros.
Farmer.

MAYPA, JOAQUIN L.
Malalag, Sta. Cruz, Davao.
Manager, Talas Plantation Company.

PALAD, FRANCISCO T.
Los Baños–College, Laguna.
Assistant in Chemistry.

POLO, DIONISIO D.
Baybay, Leyte.
Teacher, Baybay Agricultural School.

SEVILLA, IRINEO J.
Bago, Occ. Negros.
Technical Employee, Maao Sugar Central.

SINDHURAVEJNA, PAUL
Bang Sapan, Prachiabkirikhan, Siam.
Teacher, Agricultural Teachers' Training School.

SALAZAR, GONZALO
Victorias, Occ. Negros.
Technical Employee, Victorias Milling Co.

Bachelor of Agriculture

ABAD, MANUEL
San Felipe, Zambales.
Occupation not reported.

BAGARINO, JOSÉ D.
Bangued, Abra.
Agricultural Extension Agent, Bureau of Agriculture.

BAYAN, PATERNO, B.S.A. (Univ. Phil.)
Los Baños–College, Laguna.
Assistant in Animal Husbandry.

CARREON, PRIMO R.
Berkeley, Calif.
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CRUCILLO, CORNELIO V.
Malolos, Bulacan.
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CRUZ, EUGENIO E.
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CRUZ, PEDRO
Albay, Albay.
Teacher, Provincial High School.

FELICIANO, EMILIO R.
Davao, Davao.
Inspector for Fiber Standardization Board.

Feliciano, Victor T.
Concepción, Tarlac.
Manager, Family Farm.

Gomez, Eliseo T.
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Plant Inspector, Bureau of Agriculture.

Gonzalez, Salustiano, B.S.A. (Univ. Phil.)
Los Baños–College, Laguna.
Assistant in Entomology.

Kalaw, Moises, B.S.A. (Univ. Phil.)
Los Baños–College, Laguna.
Assistant in Extension Division, College of Agriculture.

Leaño, Juvencio A.
Sandakan, British North Borneo.
Agricultural Assistant, British North Borneo Co.

Lopez, Victoriano C., B.S.A. (Univ. Phil.)
Lagangilang, Abra.
Teacher, Lagangilang Farm School.

Malabanan, Deogracias
Los Baños–College, Laguna.
Assistant to Farm Engineer, College of Agriculture.

Maligaya, Irineo
Talavera, Nueva Ecija.
Manager, Hacienda Kalipalian.

Masibay, Pacifico
Zaragosa, Nueva Ecija.
Farmer.

Mendoza, Jorge N.
Tayug, Pangasinan.
Occupation not reported.

Ortiz, Miguel A.
Cebu, Cebu.
Fiber Inspector, Bureau of Agriculture.

Pacis, Andres
Baguio, Mt. Province.
Teacher, Trinidad Farm School.

Pablo, Alfredo D.
Malaybalay, Bukidnon.
Teacher, Bukidnon Agricultural School.

Palisoc, Ildefonso
Lingayen, Pangasinan.
Teacher, Provincial High School.

Pepa, Máximo E.
Davao, Davao.
Inspector for Fiber Standardization Board.

PUNZALAN, MARIANO E.
Baco, Mindoro.
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QUIZON, PABLO Z.
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REYES, FERNANDO
Los Baños–College, Laguna.
Assistant in Agronomy.

REYES, FIDEL M., B.S.A. (Univ. Phil.)
Los Baños–College, Laguna.
Assistant in Physics.

RIVERO, NORBERTO
Davao, Davao.
Inspector for Fiber Standardization Board.

RODRIGUEZ, EULOGIO, JR.
Montalban, Rizal.
Farmer.

SACAY, FRANCISCO M.
Los Baños–College, Laguna.
Assistant in Rural Economics.

SAGUIN, JOSÉ
Dapitan, Misamis.
Farmer.

SANTIAGO, MOISES
Montalban, Rizal.
Manager of Chocolate and Coffee Factory.

SANTOS, SIMEON
Lumbatan, Lanao.
Teacher, Lumbatan Agricultural School.

VENTURA, SERAPIO
Daan Bantayan, Cebu.
Farmer.

VILLAFRANCA, VICTORIANO
Balayan, Batangas.
Agricultural Extension Agent, Bureau of Agriculture.

VILLANUEVA, LEOPOLDO, B.S.A. (Univ. Phil.)
Los Baños–College, Laguna.
Assistant in Chemistry.

SALAZAR, LEOPOLDO G., B.S.A. (Univ. Phil.)
Louisiana Univ., Baton Rouge, La.
Student, Audubon Sugar School.

CLASS OF 1926

Bachelor of Science in Agriculture

Calvo, Dionisio A.
1807 Oroquieta, Manila.
Assistant Physical Director, Y.M.C.A.

Dres, Ignacio O.
Oroquieta, Misamis.
Teacher, Bureau of Education.

Khomson, George
Lampang, Siam.
Teacher.

Porquez, Pedro P.
Cadiz, Occ. Negros.
Teacher, Cadiz Private Academy.

Reliz, Angel R.
Malaybalay, Bukidnon.
Teacher, Bureau of Education.

Retiro, Dioscoro V.
Capiz, Capiz.
Teacher, Provincial High School.

Sol de Villa, Luis S.
Pototan, Iloilo.
Teacher, Pototan Academy.

Bachelor of Agriculture

Andaya, Isidro A.
San Carlos, Pangasinan.
Teacher, San Carlos Farm School.

Bandong, Tomas
Los Baños–College, Laguna.
Assistant in Agronomy.

Barbon, Cipriano P.
Carinugan Farm, Cagayan, Misamis.
Farmer.

Briones, Gregorio R.
San Pablo, Laguna.
Teacher, Bureau of Education.

Burgos, Victor
San Fernando, La Union.
Teacher, Northern Luzon National Institute.

Calma, Valeriano
Los Baños–College, Laguna.
Assistant in Plant Pathology.

Castillo, Nicanor M.
Los Baños–College, Laguna.
Assistant in Mathematics.

David, Emilio T.
San Miguel, Bulacan.
Farmer.

Garcia, Catalino E.
Santa María, Pangasinan.
Teacher, Santa María Farm School.

Goco, Gregorio
Los Baños–College, Laguna.
Assistant, Agricultural Engineering.

Gonzales, Gabriel B.
Paombong, Bulacan.
Land owner. Farmer.

Goseco, Federico
Honolulu, Hawaii.
Student, University of Hawaii.

Jimenez, Mateo D.
Los Baños–College, Laguna.
Student, College of Agriculture.

Lantican, Sotero P.
Leon, Iloilo.
Teacher, Leon Academy.

Maclang, Pastor V.
Manila.
Student, College of Education (Univ. Phil.)

Madjus, Isidro L.
Billar, Bohol.
Teacher, Billar Farm School.

Menor, Paulino
Davao, Davao.
Technical Employee, Bureau of Agriculture.

Mercado, Toribio
Los Baños–College, Laguna.
Assistant in Agronomy.

Ramos, José C.
Los Baños–College, Laguna.
Assistant in Agronomy.

Tavanlar, Eligio J.
West Point Academy, U.S.A.
Cadet.

Tuason, Celso S.
Talacag, Bukidnon.
Cattle Rancher.

Yasay, Edmundo G.
Bago, Occ. Negros.
Land owner. Farmer.

CLASS OF 1927

Bachelor of Science in Agriculture

ANTIPOLO, PETRONILO
San Antonio, Zambales.
Occupation not reported.

ARNALDO, MARCELO V.
Manila.
Occupation not reported.

BALAGTAS, AMADO N.
Los Baños–College, Laguna.
Assistant in Chemistry.

CRUZ, AMADO J. DE LA
Silay, Occ. Negros.
Occupation not reported.

DERECHO, CONSTANCIO G.
Danao, Cebu.
Inspector for Fiber Standardization Board.

DURANO, ANTONIO M.
Danao, Cebu.
Occupation not reported.

ESTAÑOL, JUAN D.
Patnogon, Antique.
Farmer.

ETORMA, SEVERINO B.
Los Baños–College, Laguna.
Assistant in Chemistry.

FLORES, NICOMEDES C.
Pila, Laguna.
Land owner. Copra Producer.

FLORIDA, VICENTE T.
Sibonga, Cebu.
Occupation not reported.

FLORITA, NUMERIANO A.
San Narciso, Zambales.
Occupation not reported.

GOTERA, EVARISTO
Guimbal, Iloilo.
Teacher, San Nicolas Academy.

OLIVEROS, SIMPLICIO V.
Baliuag, Bulacan.
Farmer.

PEREYRA, PEDRO R.
Santa Cruz, Marinduque.
Teacher, Provincial High School.

Valenzuela, Pedro D.
Manila.
Occupation not reported.

Villar, Ulpiano
Isabela, Occ. Negros.
Farmer.

Bachelor of Science in Sugar Technology

Grecia, Nicolas D., (With Certificate)
Calamba Sugar Estate, Canlubang, Laguna.
Agronomist, Calamba Sugar Estate.

Hollero, Benjamin L., (U. P. Medalist)
Binalbagan, Occ. Negros.
Assistant Sugar Chemist, Binalbagan Sugar Central.

Rivera, José A.
San Fernando, Pampanga.
Technical Employee, Pampanga Sugar Development Co.

Rosales, Hermenegildo P.
Isabela, Occ. Negros.
Assistant Sugar Chemist, Isabela Sugar Co.

Soriano, Felix S.
Bacolod, Occ. Negros.
Technical Employee, Hacienda La Paz.

Bachelor of Agriculture

Abes, Leopoldo P.
Papaya, Nueva Ecija.
Student, College of Agriculture.
Land owner.

Atienza, Maximino A.
Taal, Batangas.
Student, College of Agriculture.
Land owner.

Briones, Buenaventura C.
Barile, Cebu.
Farmer.

Calingasan, Martin G.
Canlubang, Calamba, Laguna.
Employee, Calamba Sugar Estate.

Eala, Quintin A.
Los Baños–College, Laguna.
Librarian, College of Agriculture.

Español, Filemon E.
Los Baños–College, Laguna.
Assistant in Rural Engineering.

GAMO, ENRICO B.
Los Baños–College, Laguna.
Student, College of Agriculture.

INCIONG, ANTERO P.
Sto. Tomas, Batangas.
Teacher, Sto. Tomas Academy.
Land owner.

LACUESTA, GABRIEL O.
Talacag, Bukidnon.
Employee, Tuason's Cattle Ranch.

LINA, VELENTIN K.
Lipa, Batangas.
Land owner. Occupation not reported.

MACASAET, EMILIO M.
Los Baños–College, Laguna.
Student, College of Agriculture.

MEDRANA, CONSTANCIO T.
Los Baños–College, Laguna.
Student, College of Agriculture.

MEDRANA, SANTIAGO T.
Los Baños–College, Laguna.
Assistant in Agronomy.

MORALES, EUFRAIN M.
Moncada, Tarlac.
Manager, Family Farm.

MUYARGAS, AGAPITO B.
Los Baños–College, Laguna.
Assistant in Rural Engineering.

PALISOC, ELEUTERIO V.
Sandakan, British North Borneo.
Junior Agricultural Assistant, Bureau of Agriculture.

PALLER, ENRIQUE M.
Oroquieta, Misamis.
Occupation not reported.

PINEDA, VIRGILIO E.
Cagayan, Misamis.
Cattle rancher and farmer.

ROBIN, PASCUAL R.
Los Baños–College, Laguna.
Assistant in Plant Physiology.

SUMAGIT, FELIX S.
Los Baños–College, Laguna.
Student, College of Agriculture.

TUGADE, PRIMITIVO P.
Manila.
Extension Agent, Bureau of Agriculture.

URBINO, CORNELIO M.
Manila.
Assistant Entomologist, Bureau of Science. (Rockefeller Foundation.)

Bachelor of Agriculture in Animal Husbandry

LIMPIADO, LEONCIO M.
Naval, Leyte.
Occupation not reported.

ORDOVEZA, FERNANDO C.
Santa Cruz, Laguna.
Manager of Family Farms, Tayabas and Laguna.

PAJE, PEDRO S.
Los Baños–College, Laguna.
Farmer.

SERRANO, JOSÉ A.
Peñaranda, Nueva Ecija.
Occupation not reported.

VILLANUEVA, CEFERINO J.
San Narciso, Zambales.
Assistant on Family Cattle Ranch.

Deceased Graduates

CLASS OF 1911

TEMPONGKO, CLODOALDO

CLASS OF 1916

SAN MIGUEL, LUCIO

CLASS OF 1917

TUASON, DIONISIO

CLASS OF 1918

LAYOSA, PEDRO

CLASS OF 1919

LINDAYAG, GASPAR
ERESE, VALENTIN

CLASS OF 1920

RAMOS, FLORENTINO
VILLANUEVA, LEON

CLASS OF 1922

CUITIONG, RUFINO
RODIS, FILOTEO

CLASS OF 1924

PURGANAN, JUAN
GOMEZ, JOSÉ

SUMMARY OF THE PRESENT OCCUPATIONS OF THE GRADUATES OF THE COLLEGE OF AGRICULTURE

Graduates with occupations agricultural in nature..... 292
Divided as follows:

Not in Gov't., 107	Independent farmers	75
	Employed by private concerns in agricultural enterprise.	33
Under the Gov't. service, 185	Employed by the Bureau of Agriculture	85
	Employed by other bureaus of government entities	10
	Members of the faculty of the College of Agriculture	60
	Employed by the Bureau of Education as teachers in the Farm and Agricultural Schools	29
	Total	292

Graduates with occupations not directly connected with agriculture... 88
Divided as follows:

Teachers (both in private and public academic schools)	73
Employed by other government bureaus	8
Employed by private concerns in different capacities	7
Total	88

In the United States pursuing further studies	20
Pursuing further studies in the College of Agriculture and other colleges	10
Foreign graduates	8
Deceased graduates	12
In activities wholly outside of the agricultural field	8
Occupations not reported (mostly from the class of 1927)	29
Total	88
Graduates with occupations not directly connected with agriculture	88
Graduates with occupations agricultural in nature	292
Grand Total	468

ALUMNI OF THE COLLEGE OF AGRICULTURE[1]

Directly connected with exploitation of land	191
Connected with entities engaged in fomenting agricultural development	314
Pursuing advanced courses in agriculture	30
In activities wholly outside of the agricultural field	8
Deceased	12
Occupation not reported	30

[1] As some graduates are connected with more than one activity, the total of these groups will exceed the number of alumni.

STUDENTS AND GRADUATES OF THE COLLEGE OF AGRICULTURE BY YEARS

	STUDENTS			GRADUATES			
Year	Total enrollment	New students	H. S. graduates	B. Agr.	B. S.	M. S.	M. F. (Honorary)
1909	55	55	5				
1910	95	51	1				
1911	175	84	5	2	1		
1912	253	105	13	4	1		
1913	294	147	18	7	2	1	
1914	380	166	6	9	1		
1915	428	194	12	15	7(*a*)		
1916	450	199	12	11	1	3	
1917	564	220	27	11	7	1	1
1918	366	48	36	16	2	3	
1919	462	202	27	31	3	1	
1920	528	218	37	35	8	4	
1921	622	246	37	28	7	2	
1922	673	175	31	44	9	1	
1923	648	200	42	21	19	9	2
1924	575	166	56	21	13	6	
1925	606	213	92	37	14	4	
1926	702	265	100	22	7		
1927	841(*c*)	356(*c*)	124(*c*)	27	21		
			Totals	341	123	35(*b*)	3

a Including 2 B.S.F.

b Four obtained their B.S. degrees elsewhere.

c Registration completed August 1, 1927.

OLD COLLEGE BUILDING

First building erected on Campus

ADMINISTRATION BUILDING

Dedicated in 1911. Second building erected

Culture and Agriculture are not opposing terms. We are to believe and learn that agriculture needs no importation of goods from any other realm to provide food for the care and culture of men. As the fields of the earth bring forth all manner of fruits for the sustenance of the physical life, so also does their cultivation afford stimulus and direction to the mental and moral life. For no one can be a successful husbandman who does not follow the law of Nature, which is the law of God. "The Holy Earth" is the source of thoughts that reach the Infinite, if we listen to her teaching.

Culture is the product of thoughtfulness, the understanding of facts, the appreciation of truth. If it be said that culture involves the love of poetry, all nature is a poem. If it includes a mastery of science, the farmer must be the broadest scientist. If it calls for statesmanship, farming itself is the foundation of the state. If it demands devotion to the arts, the husbandman is the keenest craftsman of them all. And if it requires creative genius to generate culture, the master of the farm is himself a creator of value, of beauty, of influence, and of new knowledge for the world's instruction.

If the farmer of to-day is not living up to the cultural possibilities inherent in his calling, it is because he is deaf and blind to the spiritual invitations that solicit him to the mastery of forces that have produced the miracles and the wisdom of the ages. For most of us culture must take root in vocation, it can not be brought from afar. But he who holds the plow may yet look off and look up. His mind may be busy with the conquest of the world. There is no enmity between culture and agriculture.

—E. W. Howe.

The glory of the farmer is that, in the division of labors, it is his part to create. All trade rests at last on his primitive activity. He stands close to Nature; he obtains from the earth the bread and the meat. The food which was not, he causes to be. The farmer was the first man, and all historic nobility rests on possesion and use of land.

—Ralph Waldo Emerson.

THE CAMPUS FROM THE SOUTH

The Animal Husbandry plant is the foreground, with the general class and laboratory buildings in the middle distance. Dormitories and Faculty Hill to the reader's left.

OUR FARMER VANGUARD

In every body of men in every line of endeavor there are always a few in the front, a few in the rear, and the majority in between these two guards. Our alumni body is no exception to this rule or condition. Among those personally engaged in farming there is a vanguard. Many others of more recent classes are pushing forward rapidly and in due time will be in the front ranks. We here note briefly the achievements of eight of our older men and four of our younger.

Some of these men were favored by fortune from the first. Family land and aid were at their command or service when their diplomas were handed to them. This does not in any way detract from their achievement. A very limited search would find many holders of land and diplomas in these Islands who are idlers, non-producers, parasites. These diplomas, let us hasten to say, are not from the College of Agriculture.

Other men in our farmer vanguard began with only their determination and their diplomas, the only value of the diploma being the knowledge and mental training which it signified. And, it may be added, its invisible significance of the character fiber formed by the six years work it took to earn it; work, in some cases, not only for credits but for food and shelter, as some of these men were self-supporting students.

We have an alumni vanguard in science, just as worthy of mention as this farmer vanguard, but it is as incontrovertible evidence that our men are, with outstanding success, producing food and other crops basic to industry, that we here present the farmer vanguard. These men "say it with pesos," that the College of Agriculture is a direct power in the economic progress of the Philippines.

A Commercial Farmer

José Zamora, B. Agr. '11, Master Farmer (Univ. Phil.), is one of the first class to be graduated from the College of Agriculture. He is one of the few graduates who went into actual commercial farming as an independent farmer right after graduation. Belonging to a well-to-do family in Manila, he was able to start his farm business with adequate capital. He acquired a sugar hacienda in Murcia, Tarlac, grew sugar cane and produced muscovado sugar on a commercial scale. He lived on his hacienda and managed his own farm business. In this connection he was more of a "dirt farmer" than an absentee landlord, as he handled his farm labor, farm operations and the business side of the enterprise. Farming was with him a business, as such, his concern was to make a yearly profit and receive a reasonable

interest on money invested. This profit and interest the principal crops must produce. The farm must also produce the principal part of the food supply of the people living on it. In trying to accomplish this, Zamora did not content himself with following the old fogy farm routine. He took time to experiment with the essential features of his farm practice with a view to introducing improvements. He tested farm labor-saving implements and ran several tests on his soil and crop requirements. In recognition of his effort in setting an example in the adoption of a modern system of farming suited to local conditions he was granted in 1917 the honorary degree of Master Farmer by the University of the Philippines.

As the second step of his agricultural career, Mr. Zamora sold his Tarlac sugar hacienda and bought a hacienda for diversified farming in Silang, Cavite. One reason for this change was that his property in Manila required his personal attention, and with his farm as near Manila as Silang, he could attend to his Manila property and at the same time carry on his farming business. He is now developing his Silang hacienda into a plantation of fruit trees, especially mangoes and chicos and raising secondary annual crops for the Manila market.

Mr. Zamora is ever alive to the promotion of Philippine agriculture in general. He is a member of the Philippine Agricultural Congress and the Philippine Society of Technical Agriculturists where he has been quite active in the discussion and adoption of wise measures for the amelioration of the country's agricultural conditions. His interest in scientific farming as well as in the welfare of our graduates is widely recognized. He is at present the President of the College Alumni Association.

A Farmer through Thrift

Apolonio Muñoz, B. Agr. '13, was a municipal pensionado while in College. His obligations to the municipality and later to his family turned him to teaching in elementary schools for a number of years. But he, with the assistance of his industrious and thrifty wife, saved from their income and finally they went back to their home town, Ligao, Albay, with enough capital to go to farming. Mr. Muñoz raises rice; has a 80-hectare farm planted with coconuts and abaca; a 20-hectare abaca plantation; a small coconut plantation, a rice field, and a good house in town with a lot large enough for 22 coconut trees, 50 cacao trees and many fruit trees.

A Future Cattle King

Florentino Cruz, B. Agr. '16, Master Farmer (Univ. Phil.), showed definitely in his College days that he has an understanding of animals that is almost uncanny, and the habit of thrift and a flair for making centavos produce pesos. Tradition tells that when he had paid his first matriculation fees at the College he had two pesos left as his only cash wealth, and

that when he left College he had a capital of about ₱300. This cash he had accumulated during his six years in College, besides supporting himself. This capital was largely the profits of his deals in poultry and pig raising on the share with people in the barrio near the College. In addition to his wages as student laborer he added to his income by renting to students a nipa house which he built. Cruz devoted little of his College days to the gayer side of life.

On graduation he did not splurge with his capital; it was laid safely away until he had added to it and gained some knowledge from experience. He found a job as animal husbandman with the Bureau of Agriculture. In a short time he went to Bukidnon as employee on a government cattle ranch. Here he began the career for which he is eminently fitted by natural traits and training.

Cruz was soon made manager of a large private cattle ranch with the responsibility of developing it along modern lines in breeding and management. In this he has made a notable success.

In addition to the freedom and authority in managing the ranch, he was encouraged by being paid a good salary and a percentage of increase in stock. He was also permitted to develop a large private ranch adjoining the company ranch.

The habits of thrift and practical economics developed in his College days, Mr. Cruz has carried to his work on the ranch. As an example, he soon had the ranch producing the food supplies for the laborers and for his own household.

The latest report from Mr. Cruz, manager, Lorugan Cattle Co. and Nellore Ranch, was that he is "managing 2,000 head of cattle valued at ₱150,000 belonging to a company, and owns himself 600 head of cattle valued at ₱80,000". So he has made a good long lap of the way to the title of "Cattle King". In recognition of this he was granted honorary degree of Master Farmer in 1923 by the University of the Philippines.

Lowering Rice Imports

Gregorio Francisco, B. S. A. '17, Master Farmer (Univ. Phil.), is one of the men in our vanguard for whom land and some capital was waiting when he received his diploma. Even so he has been no swivel chair farmer. He went at his job of making the rice land that was waiting for him do its duty. This means adapting the knowledge gained in College to his soil and the prevailing condition of the locality. He has done this with such notable success that he was granted in 1923 the honorary degree of Master Farmer by the University of the Philippines.

Mr. Francisco is distinctly a modern rice farmer. On his farm he uses threshing machines, tractors, good plows, harrows, etc. He wants for foremen men educated in agriculture. He has brought under cultivation large tracts of new land, besides improving the original inherited farm. He

has more than made two cavans come from where only one cavan came before. There is pride, there is purpose in Francisco's eye when he says "we are making Nueva Ecija the granary of the Philippines; Pangasinan's day is past".

A Colonizing Homesteader

Leon Edroso, B. Agr. '17, entered the government service as superintendent of the government's rice colony at Abulog, Cagayan, in April, 1917, and resigned in April, 1921. Upon leaving this government position, Mr. Edroso turned his attention to the development of a tract of public land of more than 200 hectares located near Macatel or Somigui, barrio of Calog of the municipality of Abulog. With the help of Antonio Baruga, a "dirt farmer" who had been living in this place since 1913, Edroso made a careful study of the agricultural possibilities of this tract of land, and he and Baruga came to the conclusion that the land was suitable for an agricultural settlement. It is generally level; is near an established forest zone; quite accessible to established communities; capable of irrigation by a gravity method from a large river; and distributed between low situations, has a fairly deep arable soil suitable for the growing of lowland rice, while higher levels are fit for the culture of upland crops.

Unable through lack of capital to lease this land from the government and develop it, Edroso decided to develop it by some sort of collective effort for the benefit of many. With this end in view, he persuaded and helped Baruga, the first settler in the place, to apply for a homestead of twenty-four hectares of the land. Later, he filed on twenty-four hectares for his own homestead. Realizing that the best possible attraction they could offer to prospective Ilocano settlers to induce them to come to a new place was a thrifty standing crop of rice, Edroso and Baruga set out to plant to rice as large an area of their homesteads as they could with their own hand work and meager resources. When the crop was on, Edroso made a trip to his home town Vintar, Ilocos Norte, to get some farm helpers for his own homestead and invite at the same time some of the more adventurous residents to visit Macatel and also to apply for homesteads. As a result of his efforts several people from Vintar came on their own account at the time of the rice harvest, and they have kept on coming every year in increasing numbers to see the place and help harvest the rice for whatever share they can get to pay part of their expenses in coming and returning. Many were so impressed with the large yield of rice and so assured by this indication that the soil is good that they not only decided to stay but encouraged others from Vintar and vicinity to come. Thus, not only the occupation of the entire tract by homesteading has been hastened, but also the development of each homestead by the additional farm help that came along with the homesteaders. Last year (1926) the settlement numbered about 200 persons, which furnished enough labor supply to begin improving

the land in some intensive way. An irrigation system for the whole tract was being constructed through the employment of communal labor under conditions agreed upon by the settlers themselves.

Edroso and Baruga are looked up to as leaders in the settlement. Edroso, however, plays the more important rôle. He has helped the settlers in locating and marking their homesteads, in preparing their applications for homesteads and in carrying on all other transactions with the government. He advises them about their farm work and leads and direct them in community affairs. He and Baruga are on the job every day in the settlement, doing their own homestead work and supervising the work on other homesteads. What Mr. Edroso hopes to accomplish as the final success of his efforts is to see the homesteaders of the settlement, through personal help, become absolute owners of the land they have developed, and in due time become prosperous and add to the agricultural wealth of the country. His work is constructive,—reveals vision. If the outcome is successful, and there is no apparent reason that it will not be, it will be a work of noble note.

A Good Farm Manager

Emilio Africa, B. Agr. '18, was first employed in a newly opened hacienda belonging to Unson Brothers in Cotabato. The hacienda consisted of over a thousand hectares of public land acquired from the government, to be developed into a coconut plantation. It was Africa's job to manage the breaking of the land with a tractor and planting it to coconut as the main crop of the plantation and growing peanuts as a catch crop to help pay the running expenses. According to one of the owners, from the first year's trial with the peanuts, they sold ₱1,000 worth of this secondary crop, which was highly satisfactory.

Later, Africa left this job and returned to Luzon. He is now manager of the large Solis Coconut Plantation in Sariaya, Tayabas. His employer expresses satisfaction and confidence in Africa's work, commending his operation and efficient business methods.

Mr. Africa has as his goal, when he has saved enough capital, a plantation of his own on what is now public land in Tayabas or in Camarines.

Developing Agriculture in Penal Colonies

Valentin Macasaet, B. Agr. '18, has specialized in making penal colonies successful agriculturally. His initial experience was as agricultural supervisor at Iwahig Penal Colony, Palawan. He found the colony importing farm foodstuffs. When he was promoted to the position of Superintendent of San Ramon Penal Farm, Zamboanga, in 1926, he left Iwahig self-sufficient in rice, corn, and other staple crops, with a surplus for the inmates of Bilibid Prison in Manila.

At the end of a little over one year at San Ramon, *El Reflector*, a Spanish newspaper in Zamboanga, published under date of May 29, 1927, the following (translated): "This is the first year the Penal Farm has more than paid expenses. There is a surplus of ₱4,485.02. It is believed that under the capable management of Mr. Macasaet, this record will continue".

Without detracting from the personal element in Macasaet's success, it may be claimed that without his training in this College, he would not have had the surpluses in the two colonies.

Mr. Macasaet says he is saving all he can and looking forward to the day when he will be on his own farm.

From Field Manager to Farmer

Joaquin J. Gonzalez, B. Agr. '19, stepped from the Commencement Day platform into the responsible position of field manager of a farm of about 4,000 hectares in Pampanga Province. Of his first year on this job he wrote five years later: "Believe me this was the most trying year I ever had in my life, for while the public looked upon me as a graduate in agriculture and one from whom much is therefore expected, I felt that I had yet very much to learn from the book of nature and from my very *inquilinos* who were working under me. I worked hard, morning and afternoon, and it took me almost a year before I felt confident that I could do something as a farmer".

When Mr. Gonzalez had gained confidence from experience, he began renting land, increasing the amount from year to year, sometimes leasing on fifty-fifty basis and sometimes on definite charge basis. His principal crops are rice and sugar cane. In both these crops Gonzalez has been a co-operator with the Plant Breeding Division of the College of Agriculture, thus definitely serving in scientific fields while actively occupied in productional operations on a fairly extensive scale.

A conservative estimate of the property, outside of that inherited, acquired by Gonzalez through his earnings in his farming enterprises, is between 45 and 50 thousand pesos. Part of this is in Sugar Centrals and Manila property. His net income from farming is about ₱9,000 a year. Besides the primary crops, sugar cane and rice, he raises corn and tomatoes.

Mr. Gonzalez expressed his gratitude to his Alma Mater in 1925 by offering the "Joaquin J. Gonzalez Medal" to the College of Agriculture graduate with the highest scholarship for the whole course. This medal is to be offered annually.

"Save and Have"

Hilario Maggay, B. S. A. '22, is an exponent by practice of the good old maxim, "A penny saved is a penny earned". He was self-supporting while a student in the College of Agriculture. When he had graduated he had some capital which he had saved from his earnings and little invest-

ments while in College. Since graduation he has been employed by the Bureau of Agriculture as Farm Adviser at Tuguegarao, Cagayan, the place of his birth. Mr. Maggay placed his nest egg of capital so wisely and has so increased it each month from savings that it, with increase and reinvested profits and income, represents property valued at ₱20,000. This property consists of 90 hectares of land—one-half under cultivation—three houses, coconut, coffee, and cacao plantations, and a fruit orchard of about 1000 trees. He has a good start in live stock, as carabaos, cows, horses, pigs, and chickens. Maggay feels that he is about ready to become his own employer and give his whole time and thought to his farming business.

A Prospective Sugar Farmer

Venerando Marilao, B. Agr. '22, supported himself during the six years he was in the College. After graduation he was lucky enough to get employment with the Philippine Sugar Association. His work took him right into the sugar industry in Occidental Negros. His job had to do with extension work. His habits of thrift of College days stood him in good stead. He saved from his wages and by 1924 he had seven hectares of rented land under cultivation. Since then he has extended his operations on rented land. He is now employed by the Philippine National Bank as cane inspector in Maao District. But he hopes to have soon accumulated enough capital so that he can give his whole time to sugar farming.

A Coconut Grower

Santiago Babao, B. S. A. '22, when he left College, stepped into a job of managing a coconut plantation for a large landowner in Batangas Province. This position he resigned when he found himself, through marriage, with two jobs—business and farming, on his hands. In agriculture he is planting a large coconut plantation.

A Good Start

Victor T. Feliciano, B. Agr. '25, on graduation assumed at once the management of the family property of 238 hectares, one-half of which was planted to rice. The other half is being cleared under his management. He is also managing the family's rice threshing machine. As manager, Feliciano's annual salary is five per cent of the entire rice crop and five per cent of the gross income of the earnings of the threshing machine and board and lodging.

With this start and his success thus far Feliciano should, ere many years, be running his own farm.

Student Dormitory

Y. M. C. A.

One of the best homes in early days

Student Cottage

Dining room, Molawin Hall

STUDENTS' LIVING QUARTERS IN EARLY DAYS (SEE CENTER FIGURE) AND THE VARIETY PROVIDED NOW

IN ILLO TEMPORE

BY AN OLD TIMER

An enthusiastic young adherent of the Darwinian theory has characterized man as being originally a crocodile's embryo that had turned crazy. Of course much depends on one's idea of what is crazy. For instance, fifteen years ago, when I enrolled as freshman in the College of Agriculture, which had first opened its doors to students two years before, everybody in my home town, including my own parents, regarded me as a fool. I am not sure that they have changed their minds much since then. They could not see why I chose an agricultural course. "If it is only to plant cowpeas, you do not have to study that in college. I can teach you how right here," advised an unschooled farmer acquaintance derisively.

The truth was that I myself was at a loss to explain why I entered this College. Any way, many of the things we do will not stand very close scrutiny. I had been enrolled in the first-year preparatory medical course in the College of Liberal Arts, when, almost before I knew it, I packed up for Los Baños where I was soon tremulously producing my credentials to Dean Copeland. That was my first meeting with the august Dean. I remember to this day my shaking knees and almost inarticulate speech, as I stood ill at ease before him, so completely overcome with awe was I in his presence. I was to learn later that I was not the only one who exhibited before him that kind of reaction.

On the "Students' Campus," as the section set aside for students to build on was then called, I found accommodation in a three-room nipa house with five other students from the Southern Islands, who had been my classmates in Manila. I was only too glad to be able to get any kind of a shelter over my head. Houses were very scarce on and near the College Campus. There were only about a dozen of them altogether. Many students had to build their own homes. True enough, bamboo could be had in any quantity just for the trouble of cutting—but this was hard work. There were no boarding houses; even the dealers that supplied food in dinner pails, and who are even now plying the same trade, belong to a comparatively more recent period. We had to prepare our own meals. Of course, we were nearly all amateurs as cooks, and many a time did we have to satisfy our hunger with rice that would have stood more adequate cooking. Near famine once occurred when money from home failed to reach my housemates for three months, due to some interruption in the southern mail service. I was the only one whose home town was comparatively easily accessible, but this proximity was not to prove an immediate and

continuous source of relief; there were six hungry mouths to feed, and the capacity of my parents' purse was much too limited to meet this demand. The fish, canned goods, and meat vendors soon gave us up as bad risks. There was, to be sure, one seller who thought she could afford to carry us on, but she dealt only in ducks' eggs. So ducks' eggs we ate for breakfast, for dinner, and for supper, every day for three months. We could not get lard on credit, so we had to be content with eating plain boiled our *pièce de résistance* during all that trying period. At the end of this ordeal, when relative prosperity finally returned to us, my companions and I suddenly developed what doctors, I believe, call idiosyncrasy against ducks' eggs; and we could not touch, much less taste, one for a long time thereafter.

I have not spoken of bathrooms; there were none in those days. These beautiful white concrete structures here and there on the Campus, where you simply turn the handle and enjoy a refreshing shower bath are modern innovations. The handy Molawin Creek answered this purpose in my student days. Indeed, that creek, which nowadays serves practically no other use than to be shown to visitors as one of Nature's most lovely spots and as a prolific hunting ground for interesting zoölogical and botanical specimens—and, incidentally, a veritable cornucopia of mosquitoes that infest the College Campus—at one time played a much more important rôle in the life of College of Agriculture students. Our cooking and drinking water, and even water used in chemical and other laboratory experiments, had to be carried up in pails over steep banks. There were no bridges to speak of and muddy footpaths led from the Students' Campus to the laboratories. When the creek was flooded, classes frequently could not meet.

Most of the first professors had been originally American teachers in the Bureau of Education or technical employees of the Bureau of Agriculture. Later, reënforcements came by importation from the United States. One of these earlier arrivals was Professor Baker. I distinctly recall his coming. There was first a big load of baggage, piled high up on a carabao cart which stopped near the main stairway of what is now called Temporary or Old College Building. On top of the baggage pile sat a dusky, but tolerably pleasant featured, young man, whom I later learned was Julian Valdez, the Professor's Cuban collector. The cargo consisted mainly of pamphlets, books, insect boxes, and, I believe, an ancient typewriter, a wash basin, and a couple of folding cots. These articles were brought up into one of the upper rooms of Old College Building, which Professor Baker used for a while as a combination living quarters, research laboratory, and class room.

We were soon taking courses under him and we had free access to this room. One day the Professor happened to be out somewhere. A classmate of ours noted a razor invitingly near a handy mirror on an empty packing box, which served as a table. Instinctively he began to feel his upper lip and soon was indulging in the luxury of a shave. Unfortunately, however, familiar footsteps and voice of the owner of the razor was heard

most inopportunely outside the room. Each student hurriedly sought less incriminating positions and pretended to be busily poring over the pamphlets. Among their number was one with an asymmetrical upper lip, one side of which was neatly cropped while the other bore bristly remnants of a couple of weeks' previous neglect.

Times have changed. "The old order changeth, yielding place to new." Progress has left, and is continuing to leave, its earmarks everywhere on the College grounds and in the College buildings. Elsewhere in this number of the AGRICULTURIST may be found listed some of the most noteworthy advances to date. We are steadily growing and, let us trust, improving. Time alone can tell how far we will reach in another fifteen years. But old timers will always relish looking back to those earlier years and pointing out to younger men the keener struggles their College went through and the bigger obstacles that had to be surmounted. The writing of this article is one example of this excusable tendency. Also, were Dean Baker approached by some enthusiastic young professor with rosy dreams of building up a well appointed laboratory that will have facilities as up-to-date as those he saw during his pensionado days in the United States, the Dean's answer will vary little: "Time was when I had to start on a packing case for a table and an empty kerosene box for a chair." And invariably that will end the argument. Since discretion is the better part of valor, the young professor finally decides he might as well change the topic, or, better yet, withdraw.

Not for us the delectations sweet.
Not the cushion and the slipper, not the peaceful and the studious,
Not the riches safe and palling, not for us the tame enjoyment,
Pioneers! O Pioneers!

Do the feasters gluttonous feast?
Do the corpulent sleepers sleep? Have they lock'd and bolted doors?
Still be ours the diet hard, and the blanket on the ground.
Pioneers! O Pioneers!

Till with sound of trumpet;
Far, far off the daybreak call—hark! how loud and clear I hear it wind,
Swift! to the head of the army! swift! spring to your places,
Pioneers! O Pioneers!

—WALT WHITMAN.

STUDENT BODY IN 1911

STUDENT BODY IN 1927
All that the camera could catch

THEN	NOW
First number of THE PHILIPPINE AGRICULTURIST AND FORESTER bears date, January 1, 1911.	Last number of THE PHILIPPINE AGRICULTURIST bears date, July, 1927. ("Forester" part of name was dropped in 1919.)
First graduating class (1911) numbered 3. There were 3 College of Agriculture Alumni in 1911.	Last graduating class (1927) numbered 43. There are 468 Alumni in 1927.
There were 18 on College Faculty in 1911; 9, professorial rank; 7 instructors; 2 assistants.	There are 88 in 1927; 30, professorial rank; 19 instructors; 39 assistants.
There were 175 in Student Body in 1911.	There are 822 in 1927.
There were 29 courses offered in 1911.	There are 130 courses offered in 1927.
The area of the Campus and Farm was 74 hectares in 1911.	The area is 396 hectares in 1927.
There were 5 College buildings in 1911.	There are 61 in 1927.
There was no College Sugar Mill in 1911.	There is one in 1927.
The Library numbered 566 volumes in 1911.	There are 7325 volumes on the stacks in 1927.
The students and faculty built their houses or sought the kindly shelter of a tree in 1911.	They choose their homes or quarters and buy or rent—just as in a city—in 1927.
There were no bath rooms for students on Campus in 1911.	There are 14 shower baths for students in 1927.
Homes and quarters were illumined with petroleum, candles or coconut oil in 1911.	Electric lights perform this service in 1927.

Pails dipped in Molawin Creek and carried up its banks was the water supply system in 1911.	A fine system supplies water on Campus—with boiled water for students—in 1927.
There was no College medical office in 1911.	There is a full time College physician, trained nurse and free medicine and part time College dentist in 1927.
There was about one kilometer of surfaced road on Campus in 1911.	There are about 10 kilometers of surfaced roads in 1927.
College official transportation was by carabao carts in 1911.	There are 5 motor trucks and one Ford car and an ornate white service station for College official use in 1927.
Faculty members hiked over trails or slushed through mud from home to office in 1911.	Some whiz from home to office in motor cars, and the rest walk over good roads in 1927.
Ice supply on the Campus was a serious problem in 1911—and for the succeeding 16 years.	Ice is manufactured on the Campus and delivered in 1927—for the first time.
There was no telephone service on the Campus in 1911.	There is telephone service between College buildings and between College and principal Laguna municipalities in 1927.
There was no post office nearer than Los Baños, four kilometers away, in 1911.	There is a first class post and telegraph office—Agricultural College, established in 1919—on Campus in 1927.
There was no church service at College in 1911.	There are both Catholic and Protestant regular services in their own chapels in 1927.
There was no cinematograph on Campus in 1911.	There is Cine Maquiling owned and run by College Faculty in 1927.
There was no store or convenient place of supply for daily needs on Campus in 1911.	There is the College Co-op., a tailor shop, and a barber shop in 1927.

Members of the Faculty offered ₱5 prizes to students in 1911.	Faculty members dangle probation and extreme delinquency fates before students in 1927.
All botany students went on the famous Mount Banahao trip in 1911.	No such endurance test required in 1927.
Students came to lecture room in overalls, without coat, and often barefoot in 1911.	Students come to lecture room in similar garb in 1927.
There was a large majority of plucky self-supporting students in Student Body in 1911.	A similar group is in the majority in 1927.
There were no co-eds in 1911.	There are 18 in 1927.
There was a fine College spirit in 1911.	There is a fine College spirit in 1927.

U. P. SUGAR MILL

WHAT THEY SAY ABOUT MENDIOLA'S BOOK[1]

This book, *A Manual of Plant Breeding in the Tropics*, the first technical text written by a Filipino member of our faculty, has been most favorably reviewed in technical journals. And many letters containing cordial words of praise from men actively engaged in scientific studies or interested therein have been received by Dean Baker and the author.

We give here extracts from a few of the letters.

Governor General Wood through his Secretary expressed his approval in these words:

> The Governor General directs me to congratulate you upon the completion of this work which has meant so much painstaking effort on your part, and which he is sure will be a valuable contribution to the development of Agriculture in the Philippine Islands.

Dr. Leon Ma. Guerrero was the first Filipino to congratulate the author. He wrote:

> It has the double merit of being a scientific and practical work, based on the experience carried out in the country with materials of the same.
>
> With my sincerest thanks go my warmest congratulations because you have produced a text-book, which will contribute, I have no doubt about this, to the development of our agriculture through scientific methods, far from the ordinary methods actually used.

Among the reviews, it is especially gratifying that the fullest was from the pen of Dr. E. B. Copeland, first dean of the College of Agriculture. This review appeared in *Science*.

> A foreword by Dean Baker explains the occasion for preparing and publishing this book. "The almost total lack of texts in the many lines of modern agricultural science, especially adapted to tropical plants, to tropical crops and to tropical conditions, makes the operation of a modern college of agriculture of full university grade in any of the new tropical countries a most difficult undertaking." Such texts had to be in preparation from the day the Philippine college of agriculture opened, in 1909. The original faculty, five Americans, might prepare one or two of them; but the job as a whole had to be tackled, indirectly, by training the men to write them. The college is now almost completely Filipino-manned, and Mendiola's is announced as the first of the series of texts from their pens.
>
> The first forty pages are given to a very concise digest of the principles and methods of plant breeding in general. The comparative brevity of this general treatment indicates the scale of which more particular matters demand space.
>
> Rice breeding follows with fifty pages. There has been a great deal of careful rice breeding, in many lands, during the last two decades, but this is the first comprehensive showing of tests of basic data. The necessity of such a comprehensive study of fundamentals is obvious from two facts: Where pure-line selection has been practiced most perfectly with rice, the result has been a colossal disappointment; and, while the publications on rice

[1] Mendiola, Nemesio B. 1926. A Manual of Plant Breeding for the Tropics. xxviii +365 p., 54 fig. Manila: Bureau of Printing.

hybridization would fill a volume, not one authentic product of artificial crossing has come into farm use. The careful basic work of Mendiola and his students has yet to be applied to the numberless varieties of rice—above two thousand in the Philippines alone. When this is done, the results will make a book by themselves.

Sugar cane follows with thirty-three pages. The concentration of private capital in sugar production has made cane one of the most perfectly bred plants, whatever the particular local objective—yield, sucrose content, purity of sap, or resistance to particular diseases. The recent boom of the Philippine sugar industry has demanded particular attention to its problems, and the results are worthy of the effort. Seven seedling strains originating at the college have come into farm use.

The object of corn (maize) improvement receives twenty-three pages. Credited with being originally a tropical plant, maize has been bred to fit a temperate climate, until its return to the tropics is a new undertaking. Imported fine varieties, properly handled, quite regularly outyield the so-called native varieties in the dry season, but not in the wet. The immediate stimulation of yield by cross pollination is as evident in the Philippines as elsewhere; but no hybrid has yet been established which will produce in the tropics a succession of crops nearly up to the Iowa standards.

Tobacco improvement receives nineteen pages. No other crop has shown itself as dependent as this upon breeding to fit local conditions. Several places famous for their fine tobacco have undertaken in the past to prevent export of their seed, but their seed practically never produces fine tobacco elsewhere. The most of the famous tobaccos of the world have been tested at the Philippine college, and not one has proved as good there as the "Native" Cagayan. However, several hybrids have been produced, with one imported parent, of which at least one is a very superior wrapper.

Coconut breeding covers twenty pages, which suffice for the first general presentation of the basic data. For example, here is the first note of a performance record of the trees of a commercial grove, indicating that only 23 per cent. of the trees are fit sources of seed. The commonly assumed uniformity of a few strains or varieties of coconut is very soundly questioned.

Abaca improvement receives only sixteen pages, enough to show how little is known about it. The guesses at the number of varieties run from fourteen to seventy. The fact is that several species are involved, some of which are without botanical names. Mendiola points out promising methods of improvement, but most of the actual work is still to be done. And yet abaca is the most noted product of the Philippines.

Minor "crops" are covered in twenty-seven pages. These include the sweet potato, of which thirty-five native varieties have been tested at the college; cassava, perhaps the most productive crop in the world; coffee, of which the Philippines produce an excellent quality; cacao, with which they used to be credited with the finest in the world; rubber; cotton; and a number of vegetables. Briefly as these are treated, the outline of work done and needed is satisfactory for sweet potato and cassava. For rubber, it is not so, as the author is probably aware. Yams are not even mentioned.

There follow sixty-seven pages on fruit improvement, in which banana has first place. "It is probable that the largest collections of edible *Musa* are found in the Philippines," and "It is believed that many questions on hereditary phenomena may be studied and solved with this genus as material." The author proceeds to make an asset of the natural difficulty in the way of breeding this plant, outlining methods and finding room for a mass of specific data as to seedless and seedy varieties, the fertility of seed, the presence and absence of pollen, susceptibility and immunity to the wilt disease, etc. The papaya is likewise well treated. It is an especially inviting subject for the breeder because it is commonly dioecious, and every planter wants a solid field of pistillate plants. Briefer space is given to mango, lanzon, pineapple and the citrus fruits. Dozens of other fruits are mentioned or hardly more. The virginity of this field is illustrated by the discovery on the college campus of a very savory wild fruit which turned out to represent a genus new to science.

Ornamentals close the work, with particular attention to "Croton" (*Codiaeum*) and Hibiscus.

Plant breeding in the tropics is still the work of pioneers. There are great standard crops hardly better known in a scientific sense than *Hedyachras*, the new fruit tree just mentioned, and *Leptosolena*, a wild native with real advantages over Canna for the same use. Science, as we are used to its uses in the north, is just getting established in the tropics. The breeder finds there such crops as coconut, with which breeding is a slower job than he ever found it before. He finds an ancient agriculture, in which even the formation of seed has ceased in some important crops. He finds conditions for the spread of disease more perfect than temperate conditions even suggest, and must do his work over and over, as new diseases and parasites appear. Along with the ancient agriculture, he finds a new one in its genesis, in which a plant from the forest becomes over night one of the world's great crops. Into this fascinating field Mendiola has given us a guide, so usable that it stands safely without the apology of the newness of its field.

It stands out in Mendiola's book as clearly as in this review that it is the product of an institution. In the list of publications cited appear those of more than thirty of his Filipino colleagues and students. By such institutional activity the task depicted in Dean Baker's foreword has been carried on.

Wm. T. Horne, Associate Professor of Plant Pathology, University of California, wrote the author:

Professor C. F. Baker, whom I have known for a good many years, has sent me a copy of your manual of Tropical Plant Breeding. I have read it with very great interest and, although I do not pretend to be a competent authority on the more involved phases of genetic work, I feel sure that your work is sound and it should certainly be of great use to workers with tropical material as giving them a point from which to start and the gist of information already available. It should also serve as a very genuine inspiration for workers in tropical countries to go forward with this most interesting line of work, and one which always has the promise of very substantial accomplishment for human betterment. I congratulate you most heartily on this excellent piece of work.

Dr. E. W. Allen, Chief, Office of Experiment Station, Washington, D. C., had the following good words to say in a letter to Doctor Mendiola:

I note the care and thoroughness with which this has been prepared. It appears to be a timely contribution to plant breeding literature, and reflects much credit on you.

If you will permit a friendly suggestion it is that I believe the general reader of such a manual would welcome a fuller treatment of the subject of cotton breeding. Cotton is of course an important crop for the tropics and sub-tropics and its improvement has been the subject of a very large amount of investigation. The reader interested in that subject might miss reference to the work of such men as Balls, Cross, Sir Francis Watts, and others and possibly you might find opportunity for enlargement in that direction should you have a revised edition.

The "Manual" is a tribute to your training and your industry, and I thank you very much for favoring me with a copy. I shall see that a suitable note on it is made for Experiment Station Record.

Dean Russell of the College of Agriculture, University of Wisconsin, wrote:

Doctor Mendiola's book came at hand the other day. It looks like a very creditable production. It seems to me that it is highly important to have the Filipinos take up the matter of preparing distinctive tropical material in this organized form, as in this way un-

questionably they will be lifted gradually into a position where the educational work can be more satisfactorily presented than would be the case where information is based upon the use of material from foreign sources.

Dr. Stephen P. Duggan, Director of the Institute of International Education, New York City, esteems the book of practical value. We quote:

The book came the other day, I have only had a chance cursorily to read it but, if the information contained in it with reference to improving the breeding work in rice, sugar cane, corn, tobacco, abaca, and other crops, were only adopted, what a benefit to the Filipino people would result. Let me thank you for the book and for the kindly word of greeting you wrote in it. May I ask you also to convey my heartiest congratulations to Professor Mendiola, whom I remember with great pleasure.

Doctor Duggan as a member of the Monroe Commission of Investigation of educational institutions in the Philippines spent several days at the College of Agriculture in 1925.

We give in part an appreciative letter to Dean Baker from Dr. W. H. Weston, Assistant Professor of Plant Pathology, Harvard University.

The copy of Doctor Mendiola's book which you sent me arrived safely and I was very pleased indeed to receive it. I read it with great interest myself, and my approbation of it was shared by others to whom I showed it. . . . .

I was greatly interested, particularly in the parts which dealt with rice, coconuts and sugar cane, and I hope that this is just the first of a series of works which shall come from the College of Agriculture under your direction dealing with equal completeness with various phases of tropical Biology in its broadest sense.

As Doctor Weston, under the United States Department of Agriculture, studied "Downy mildew of maize" in the Philippines one year and made the College his headquarters, his commendation carries a personal value.

Evett D. Hester, formerly head of Department of Rural Economics in this College, now Assistant Commercial Attaché in American Embassy, Madrid, wrote hearty words of congratulation to his former colleague. We quote a few lines:

I have read much of your book and find the clear outline and manner of expression extraordinarily good. As a teacher, I have been particularly bothered at times in the use of excellent texts sloppily written and poorly organized. Your book meets the teaching qualification to the last "t". I haven't a doubt about its science, although I am far from a critic on such points. I was particularly "tickled" to note the dedication to my very good friend.

We close these extracts with the kindly words of Hon. Silverio Apostol, Acting Secretary of Agriculture and Resources, Manila:

I congratulate you sincerely for this signal contribution to science. I have not yet read all the book, but I am sure of one thing: that it is the first book of the kind ever written in the Philippines.

The cordial approval expressed in reviews in British Journals is most gratifying. Two reviews follow.

From *Tropical Life*, London:

The author of this book tells us that his aim has been to provide students with a text-book in the study of the methods of tropical plant breeding, and at the same time to provide

a reference for the investigation of plant-breeding as an art or as a profession for any one who wishes to practice it. In this issue we can only say that the book is divided into thirteen chapters, of which Chapter V discusses rice-breeding, Chapter VI sugar cane, and then follow other chapters on maize, tobacco, coconuts, abaca, or Manila hemp, whilst Chapter IX discusses the minor crops, in which we are rather amused to see that coffee, rubber and cotton are included, whilst banana and fruits generally occupy Chapter XI, and ornamental plants fill the last section of the book, which concludes with an excellent bibliography and a very full index. Here we notice that with Manila hemp, such questions as its adulterations and the causes of low yields are discussed, whilst its cultivation in Malaya is touched upon, and the questions of varieties fairly fully dealt with. Bananas occupy such a considerable space and cover the ground so fully that we cannot do more than mention the fact. With cacao, its improvement, self-fertilization, viability in yield and other matters are discussed. Considering the importance that the coconut industry has assumed in the islands, the space given up to this crop is not excessive, but it is quite a lot to tell us, and those who wish to improve the quality of their nuts and increase the yield may find much that is useful within the pages given up to that subject; or even, if they do not find exactly what they hoped to meet with, what the author has to tell us should enable them to set off along the right path to learn what they wish to know from others.

Our readers out in the East will probably turn to the rubber section first; this covers pp. 217 to 227, and considering the small space devoted to it has quite a lot of information tucked away in its headed paragraphs, whilst the same can be said of sugar-cane and tobacco. Altogether we have before us a very useful book for reference, an excellent stepping stone for study and experimental work on the subject. With the help of such a book both the student and the actual planter should go far to improve the quality of his crop and increase the yields.

From The Bulletin of Miscellaneous Information, Royal Botanic Gardens, Kew:

A Manual of Plant Breeding in the Tropics. This volume constitutes, as pointed out in the foreword, the first of a series of agricultural science texts for use in the Philippines and in the Tropics, prepared by the College of Agriculture of the University of the Philippines. The first few chapters are devoted to the general principles of and the methods employed in plant breeding, after which a special chapter is devoted to the genetics of each of the main crops of the Philippines, such as Rice, Abaca (Manila Hemp), Sugar Cane, Maize, Tobacco and Coconuts. This is followed by a general account of the improvement of minor Philippine crops, which include Cassava, Coffee, Rubber, Cacao, Cotton, Sweet Potato, and others. In addition to crops, fruits and ornamental plants are dealt with. Under the former heading interesting accounts of recent work on banana and pawpaw (*Carica Papaya* L.) are given; other tropical fruits, including citrus, are dealt with in less detail. In the discussion on ornamental plants, work done on the various ornamental *Hibisci* receives special attention, and interesting information on the production of new seedling varieties of the common croton (*Codiaecum variegatum* (L.) Blume) and on the results of Rosal (*Gardenia florida* L.) breeding in the Philippines is included.

The book, consisting of 265 pages with numerous illustrations, should be extremely useful to all engaged in plant breeding work in the Tropics. For though intended primarily as a student text-book the field covered is so wide, and the most recent information concerning many of the crops is presented in such detail, that the book is likely to have a far wider range than that claimed for it by the author. As tropical plant breeding is dealt with exclusively the work is quite one of the pioneers of its kind, and should be appreciated as a botanical and agricultural text-book for use in colleges throughout the Tropics. A useful bibliography is incorporated at the end of the work.

The Philippine Bureau of Education recommends the book to supervisory officials and administrators as a book on vocational education with the following comment:

The book is adapted for use in the Philippines. It is written in clear and simple language and contains numerous drawings and illustrations, making it suitable for elementary school teachers.

THE ANIMAL HUSBANDRY PLANT

A cogonal six years ago

FROM COGONAL TO TEACHING PLANT

Six years ago the area now occupied by the Animal Husbandry Department plant was a *cogonal*. The plate on the opposite page gives some idea of the transformation that has taken place on this area since 1921. This plant is largely self-developed. Many of the buildings and the other improvements have been made possible through the Revolving Fund created about the middle of 1923. With this fund the department has been able to build and add equipment out of earnings in much the same way as an industrial plant expands. The hog barn which burned down and was rebuilt in 1924 and the main building built in 1922-23 were constructed with funds appropriated by the University. The butcher house, feed and implement barns, dairy barn, dairy room, public breeding hog house (not shown in picture), horse stables, poultry brooder house, poultry laying house (not shown in picture), two semi-permanent paddock sheds, semi-permanent shed for stock scales, one ton ice plant, bridge across Bo-ot Creek (under construction, not shown in picture), foreman's residence (not shown in picture), were built with money from the Revolving Fund. The poultry laboratory, Animal Husbandry Gate, and replacement of temporary fencing with permanent fence of concrete posts and woven wire were partly paid for from the Revolving Fund.

Explanation of plate on opposite page

The picture gives a bird's eye view of the central animal husbandry plant showing about 5 hectares of the 150 hectares land of the department, most of which is in improved natural pastures, partly shown in the right background. The large group of buildings consists of the office and classroom building with incomplete right wing. The central ell is the stock pavilion. The row of buildings forming a quadrangle with the main building are the horse, work cattle, dairy cattle, milk room, and feed and implement barns. The two buildings at the right, almost hidden by the spreading acacia trees, are the hog barn and butcher shed and ice plant. The smaller structures are semi-permanent paddock sheds. The structure which appears as a white column at the left is the Rancher's Club memorial arch. All fields and paddocks are permanently fenced and partitioned into standard areas suitable for experimental plantings.

FACULTY HOMES

The early day type of house and present type. At top of page, Dean Copeland's home, third house built on Faculty Hill. Still a faculty house, the only one left of the first trio.

PUBLISHED CONTRIBUTIONS FOR THE COLLEGE OF AGRICULTURE

This list is grouped under the nine departments in the College. The list does not include all articles published in THE PHILIPPINE AGRICULTURIST, only those by authors who were on the College faculty at time of publication or when material for article was collected.

In arranging this list, authors, with a very few exceptions, when members of faculty, are placed under the department with which they are connected irrespective of the subject matter of the article. Contributions by students, which for the most part are graduating theses, are placed with the department under which they were prepared. The authors are grouped alphabetically, and contributions by each arranged chronologically.

Agricultural Chemistry Laboratory

There are altogether 789 contributions, four being books, and thirteen circulars, five of which are reprints of articles. By a rough estimate there are 8,400 pages.

DEPARTMENT OF AGRICULTURAL CHEMISTRY

ACUÑA, EULOGIO M. 1923. The vitamin B content of some Philippine fruits and vegetables: I. The Philippine Agriculturist **12**: 293–302.

ADRIANO, FELIPE T. 1920. A volumetric method for the determination of lactose by alkaline potassium permanganate. Philippine Journal of Science **17**: 213–220.

ADRIANO, FELIPE T. 1925. The proximate chemical analysis of Philippine foods and feeding stuffs. The Philippine Agriculturist **14**: 57–91.

ADRIANO, FELIPE T., AND ELIGIO J. TAVANLAR. 1925. The calcium oxide content of some Philippine foods. The Philippine Agriculturist **14**: 347–357.

ALINCASTRE, CECILIO. 1925. A brief survey of the cane sugar industry in Louisiana and the Territory of Hawaii. Sugar News **6**: 137–143. *Chart 1.*

ALINCASTRE, C. 1926. How planters judge factory efficiency. Sugar News **7**: 400–401.

ALINCASTRE, C. 1926. A study of cane burning before cutting. Sugar News **7**: 272–285.

ASHTON, FRED W. 1919. The research chemist in the Philippines. The Philippine Agriculturist **8**: 22–26.

CARAY, ELIAS M. 1921. The chemical composition of copra meal with special reference to the nature of its carbohydrates. The Philippine Agriculturist **10**: 55–68.

CARAY, ELIAS M. 1924. Isolation and identification of some of the sugars in copra meal and coconut water. The Philippine Agriculturist **13**: 229–254. *Pl. 1–3.*

CLEMENTE, LEOFOLDO SUDANO. 1918. A study of Dioscorea with starch determinations and cooking tests. The Philippine Agriculturist and Forester **6**: 230–246.

COLLADO, ESTEBAN G. 1926. Studies on the nutritive properties of sea weeds. The Philippine Agriculturist **15**: 129–148. *Fig. 1–3; charts 1–5.*

DE JESUS, FRANCISCO. 1927. The vitamin B content of some Philippine fruits and vegetables: III. The Philippine Agriculturist **15**: 533–546. *Charts 1–4.*

DEMING, HORACE G. 1912. A glimpse into the chemistry of human nutrition. The Philippine Agriculturist and Forester **2**: 7–11.

DEMING, HORACE G. 1915. How to prepare mixed fertilizers. The Philippine Agriculturist and Forester **3**: 210–217. *Fig. 1–2.*

DERECHO, ANTONIO. 1921. A biological study of copra meal. The Philippine Agriculturist **10**: 45-54. *Charts 1-8.*

GAERLAN, SIXTO A. 1926. Comparative amounts of gases carbon dioxide, oxygen, and nitrogen found in the body of certain plants. The Philippine Agriculturist **14**: 557–567.

GRECIA, NICOLAS D. 1926. A field test of five different varieties of sugar cane at Hacienda Carmencita, Pampanga. The Philippine Agriculturist **15**: 443–452.

LABAYEN, SEGUNDO D. 1914. The chemical composition of the Philippine sweet potato. The Philippine Agriculturist and Forester **3**: 79–80.

LABAYEN, SEGUNDO DIAZ. 1915. Sugar manufacture at the Calamba Sugar Estate. The Philippine Agriculturist and Forester **4**: 92–98.

LAVA, V. C., AND J. A. RIVERA. 1926. Calibration of the Bausch and Lomb saccharimeter of the University of the Philippines sugar mill. The Philippine Agriculturist **15**: 409–414. *Chart 1.*

MIRASOL Y JISON, JOSÉ. 1915. Chemical changes during the ripening of sugar cane. The Philippine Agriculturist and Forester **4**: 101–108.

MIRASOL Y JISON, JOSÉ. 1918. Spacing experiments with sugar cane. The Philippine Agriculturist and Forester **7**: 127–136. *Charts 1–2.*

MIRASOL, JOSÉ JISON. 1920 Aluminum as a factor in soil acidity. Soil Science **10**: 153–219. *Pl. 1–12.*

MIRASOL, JOSÉ J. 1921. The year's enrollment. The Philippine Agriculturist **10**: 89–90.

PAÑGANIBAN, ELIAS H. 1915. A study of nitrification in Philippine soils. The Philippine Agriculturist and Forester **4**: 81–91.

PAÑGANIBAN, ELIAS H. 1923. Rate of decomposition of organic nitrogen in rice paddy soils. The Philippine Agriculturist **12**: 63–75.

PAÑGANIBAN, ELIAS H. 1925. Temperature as a factor in nitrogen changes in the soil. Journal of the American Society of Agronomy **17**: 1–31. *Charts 1–4. Abstract in* The Philippine Agriculturist **14**: 309–310. 1925.

PAÑGANIBAN, ELIAS H. 1925. A preliminary study of the effect of pressure upon the nitrogen changes in the soil. The Philippine Agriculturist **14**: 235–242.

PAÑGANIBAN, ELIAS H. 1925. Soil acidity tests. Sugar Central and Planters' News **6**: 398–400.

PAÑGANIBAN, ELIAS H. 1926. A few factors on nitrification. Sugar News **7**: 832–836.

PAÑGANIBAN, ELIAS H. 1926. Effect of acidity on the activities of the microorganisms of the soil. Sugar News **7**: 902–905.

QUISUMBING, FRANCISCO, AND GERARDO OCFEMIA. 1914. Some chemical and bacteriological effects of clearing land by burning. The Philippine Agriculturist and Forester **3**: 76–78.

QUISUMBING, FRANCISCO ARGUELLES. 1914. The cultivated root-producing aroids. The Philippine Agriculturist and Forester **3**: 85–110. 85–98.

QUISUMBING, FRANCISCO A. 1915. Camphor in the Philippines. The Philippine Agriculturist and Forester **3**: 190–192.

QUISUMBING, FRANCISCO A. 1920. Determination of glucose and starch by alkaline potassium permanganate method. Philippine Journal of Science **16**: 581–601. *Fig. 1–6.*

QUISUMBING, F. A., AND A. W. THOMAS. 1921. Investigation of conditions affecting the quantitative determination of reducing sugars by Fehling solution and the elimination of certain errors involved in the current methods. Journal of the American Chemical Society **43**:. *Abstract in* Philippine Agriculturist **10**: 69–71. 1921.

QUISUMBING, FRANCISCO A. 1921. Philippine contributions on agricultural, biological, and industrial chemistry. The Philippine Agriculturist **10**: 113–123.

ROXAS, M. 1911. The pandan industry in Majayjay. The Philippine Agriculturist and Forester **1**: 11–12.

ROXAS, MANUEL. 1911. The cultivation of coconut. The Philippine Agriculturist and Forester **1**: 57–60.

ROXAS, MANUEL. 1911. The effect of some stimulants upon rice. The Philippine Agriculturist and Forester **1**: 89–97.

ROXAS, MANUEL LUZ. 1914. Lipase in the germinating coconut. The Philippine Agriculturist and Forester **3**: 33–39.

ROXAS, MANUEL L. 1916. Re reaction between amino acids and carbohydrates as a probable cause of humin formation. Journal of Biological Chemistry **27**: 71–93.

ROXAS, MANUEL L. 1919. Sugar cane investigations in the College of Agriculture. The Philippine Agriculturist **8**: 179–189.

ROXAS, MANUEL L. 1920. The sugar chemistry course at the College of Agriculture. The Philippine Agriculturist **9**: 25–27. *Pl. 1–2.*

ROXAS, MANUEL L. 1920. A comprehensive plan of investigation in sugar cane agronomy and chemistry. The Philippine Agriculturist **9**: 35–39.

ROXAS, MANUEL L. 1920. Apparatus for the rapid determination of lime needed for clarification. Sugar News **1**: 9–13.

ROXAS, MANUEL L. 1920. Rapid method of determining the amount of lime needed for clarification. Sugar News **1**: 13–14.

ROXAS, MANUEL L. 1920. A plan for the investigation of sugar cane problems. Sugar News **1**: 1–7.

ROXAS, MANUEL L. 1920. The proposed sugar course at the Los Baños Agricultural College. Sugar News **1**: 13–16.

ROXAS, MANUEL L. 1920. Select your cane points for seed. (Editorial.) Sugar News **1**: 16–17.

ROXAS, MANUEL L. 1921. Chemistry and agriculture. The Philippine Agriculturist **10**: 41–42.

ROXAS, MANUEL L. 1921. Europe's youngest republic establishes a sugar station. The Philippine Agriculturist **10**: 43–44.

ROXAS, MANUEL L., AND RAMON B. MANIO. 1921. Starch from cassava. The Philippine Agriculturist **10**: 73–74.

ROXAS, MANUEL L., AND RAMON B. MANIO. 1921. Industrial alcohol from cassava. The Philippine Agriculturist **10**: 75–84.

ROXAS, MANUEL L. 1922. The modern conception of nutrition and some of our food problems. The Philippine Agriculturist **10**: 447–465.

ROXAS, MANUEL L., AND ANGEL A. AFRICA. 1923. Clarification in raw sugar factories. Report, Philippine Sugar Association: p. 43–50.

ROXAS, MANUEL L., AND GIL O. OPIANA. 1923. The Clerget Method. Report, Philippine Sugar Association: p. 137–141.

ROXAS, M. L. 1926. The interpretation of results of field tests in relation to the variation in yields of the different replicated plots and the law of errors. Sugar News **7**: 208–213.

ROXAS, M. L. 1926. The 1925–26 field experiments at the Del Carmen District, Pampanga. Sugar News **7**: 387–399.

ROXAS, M. L. 1926. The 1925–26 field experiments at the Del Carmen District, Pampanga. Sugar News **7**: 478–486.

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ROXAS, M. L. 1926. My impressions on the sugar industry of Negros. Sugar News **7**: 632–648.

ROXAS, M. L. 1926. Report of the Committee on cane varieties, diseases, and fertilizers. Compilation of Committee Reports for the Fourth Annual Convention of the Philippine Sugar Association, September 6–10, 1926.

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ROXAS, MANUEL L. Causas principales de la producción mala por unidad de terreno y capital. La Vanguardia, February 10, 1926.

SALAZAR, LEOPOLDO. 1926. The manufacture and chemical control of some soybean products under Los Baños conditions. The Philippine Agriculturist **15**: 219–231. *Fig. 1–2.*

SANTOS Y ALVAREZ, FRANCISCO O. 1920. A biological study of copra meal. Philippine Journal of Science **16**: 181–190.

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SANTOS, FRANCISCO O., S. H. BASSETT, AND E. HOLT. 1922. The influence of meat upon physical efficiency. Journal of Physiology **60**: 574–577.

SANTOS, FRANCISCO O. 1923. Metabolism experiments with Filipino students in the United States. Philippine Journal of Science **23**: 51–66.

SANTOS, F. O., AND E. G. COLLADO. 1925. Vitamin B in tikitiki extract prepared by the Philippine Bureau of Science. The Philippine Agriculturist **14**: 243–245. *Chart 1.*

SANTOS. F. O. 1925. The A, B, C, of Filipino nutrition. Monthly Bulletin of Philippine Health Service **5**: 661–666.

SANTOS, F. O., AND E. G. COLLADO. 1926. The nutritive value of Philippine cereals: I. The vitamin B content of glutinous rice, dead rice, and adlay. The Philippine Agriculturist **14**: 473–477. *Chart 1.*

SANTOS, F. O. 1926. Need of funds for research. The Philippine Agriculturist **14**: 549–551.

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SANTOS, F. O., AND S. SANTOS. 1926. The vitamin B content of some Philippine fruits and vegetables: II. The Philippine Journal of Science **30**: 307–323. *Charts 1–3.*

SANTOS, F. O. La necesidad de mejoras el dietario Filipino. La Vanguardia, February 10, 1926.

SARAO, FELIX BAUTISTA. 1918. Value of Philippine composts. The Philippine Agriculturist and Forester **6**: 128–134.

SERRANO, CIRIACO B. 1923. Prussic acid in Phaseolus lunatus and other beans. The Philippine Agrculturist **11**: 163–175.

SOLIVEN, FLORENCIO A. 1924. The proximate composition of palmoria seed, oil, and resin. The Philippine Agriculturist **13**: 65–77. *Pl. 1–2.*

SORIANO, FELIX S. 1927. The calorific value of bagasse of different varieties of sugar cane grown in the College of Agriculture. The Philippine Agriculturist **15**: 595–603.

SULIT, VICTOR. 1926. Studies on toxicity of copra meal: I. The Philippine Agriculturist **14**: 511–522. *Charts 1–3*

SULIT, VICTOR. 1926. Studies on toxicity of copra meal: II. The Philippine Agriculturist **14**: 595–607. *Charts 1–9.*

VILLYAR, PAUL A. 1917. A preliminary study of the Philippine coconut-oil industry. The Philippine Agriculturist and Forester **6**: 66–83. *Pl. 1–3.*

VISTA Y ISLES, TOMAS. 1915. Chemical changes in the ripening coconut. The Philippine Agriculturist and Forester **4**: 109–115.

ANONYMOUS. 1926. The New College Copra Drier. (Prepared in Department of Agricultural Chemistry with co-operation of Department of Agronomy and Extension Division) Circular No. 12.

DEPARTMENT OF AGRICULTURAL ENGINEERING

CUZNER, HAROLD. 1921. What is agricultural engineering? The Philippine Agriculturist **10**: 130.

ROA, MANUEL A. 1922. A method of multiplying two numbers that end in 5. The Philippine Agriculturist **11**: 159–160.

Agricultural Engineering Building

TEODORO, A. L. 1925. Plows and plowing: I. Plowing, a power consuming operation on the Philippine farm. The Philippine Agriculturist **14**: 37–38.

TEODORO, A. L. 1925. Plows and plowing: II. A study of some typical Filipino native plows. The Philippine Agriculturist **14**: 135–142. *Pl. 1; fig. 2.*

TEODORO, A. L. 1925. Plows and Plowing: III. Draft tests on four makes of single animal walking plows. The Philippine Agriculturist **14**: 297–301. *Fig. 1–2.*

TEODORO, A. L. 1925. A preliminary study of the transverse strength of structural bamboo. Agricultural Engineering **2**: 266–267. *Fig. 1–2.*

DEPARTMENT OF AGRONOMY

ABAD, MANUEL F. 1927. The relation of seedling vigor to production in rice. *Abstract in* The Philippine Agriculturist **15**: 559–560.

ABADILLA, FRANCISCO A. 1917. Yautia and gabi tests. The Philippine Agriculturist and Forester **6**: 45–54.

Abesamis, Ambrosio P. 1922. Effect of time of planting on growth and yield of a lowland rice in Peñaranda, Nueva Ecija, and on the College Farm. The Philippine Agriculturist **10**: 381–392.

Abrajano, Quirico F. 1922. Rice on cogon soil with and without treatment. The Philippine Agriculturist **12**: 181–190.

Adriano, Alfredo P. 1914. Handling and planting of seed cane. The Philippine Agriculturist and Forester **3**: 41–49.

Africa, Angel A. 1920. A preliminary survey of the comparative cost of different methods of harvesting rice. The Philippine Agriculturist **8**: 277–292. *Pl. 1.*

Albano, Sotero Flordeliza. 1915. The effect of fertilizers and stimulants upon growth and production of Carchorus capsularis. The Philippine Agriculturist and Forester **3**: 218–226.

Aldaba, Vicente C. 1919. Cultivation and tapping of Castilloa rubber in the Philippines. The Philippine Agriculturist **7**: 274–307.

Aldaba, Vicente C. 1922. The cultivation of abaca and preparation of its fiber in Davao. The Philippine Agriculturist **10**: 273–283. *Fig. 1.*

Aldaba, Vicente C. 1926. Tests for canton and abacá. The Philippine Agriculturist **15**: 177–179.

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Asuncion, Silvestre. 1914. The influence of fertilizer on the growth and production of sugar cane. The Philippine Agriculturist and Forester **3**: 69–72.

Aurelio, Catalino G. 1915. The cost of production of rice by Philippine methods. The Philippine Agriculturist and Forester **4**: 29–42.

Bacomo, Pantaleon U. 1917. Observations on coconut seedlings. The Philippine Agriculturist and Forester **5**: 303–310.

Bagui, Florencio. 1911. Black pepper in Batangas. The Philippine Agriculturist and Forester **1**: 136.

Bagui, Crispulo G. 1923. Commercial citrus production in Batangas Province and means of improvement. The Philippine Agriculturist **12**: 29–42.

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Baker, C. F. 1912. The pomelo. The Philippine Agriculturist and Forester **2**: 62–63.

Baker, C. F. 1912. The tropical agricultural college. The Philippine Agriculturist and Forester **2**: 98–103.

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Baker, C. F. 1914. Improvement of papaya. The Philippine Agriculturist and Forester **3**: 5.

Baker, C. F. 1914. Introduction of plants in tropical countries. The Philippine Agriculturist and Forester **3**: 21–24.

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Baker, C. F. 1914. First supplement to the list of the lower fungi of the Philippine Islands. Leaflets of Philippine Botany **7**: 2417–2529.

Baker, C. F. 1914. A review of some Philippine plant diseases. The Philippine Agriculturist and Forester **3**: 157–164.

Baker, C. F. 1914. Studies in Philippine Jassoidea, I: Some remarkable Tettigoniellidae. Philippine Journal of Science **9C**: 409–422. *Fig. 1–11.*

Baker, C. F. 1915. Notices of certain Philippine Fulgoroidea, one being of economic importance. Philippine Journal of Science **10D**: 137–146. *Pl. 1; fig. 1.*

Baker, C. F. 1915. Studies in Philippine Jassoidea, II: Philippine Jassaria. Philippine Journal of Science **10D**: 49–61. *Fig. 1–5.*

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BAKER, C. F. 1915. Studies in Philippine Jassoidea, IV: The Idiocerini of the Philippines. Philippine Journal of Science **10D**: 317–344. *Fig. 1–23.*

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BAKER, CHARLES FULLER. 1918. The College of Agriculture in its relation to the Alumni. The Philippine Agriculturist and Forester **7**: 95.

BAKER, CHARLES F., and EMMA S. YULE. 1918. A postgraduate reading course for Alumni of the College of Agriculture. The Philippine Agriculturist and Forester **7**: 108–111.

BAKER, C. F. 1919. Hevea versus Fungi. (Singapore) Gardens' Bulletin **2**: 109-113.

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BAKER, C. F. 1919. The Malayan Machærotinæ (Cercopidae) Philippine Journal of Science **15**: 67–80. *Pl. 1–3; fig. 1.*

BAKER, C. F. 1919. The genus Krisna (Jassidae) Philippine Journal of Science **15**: 209–220. *Pl. 1–5.*

BAKER, C. F. 1919. Notices of certain Fulgoroidea, II: The genus Trobolophya. Philippine Journal of Science **15**: 301–305. *Fig. 1–6.*

BAKER, CHARLES FULLER. 1920. The new college year. The Philippine Agriculturist **8**: 327–328.

BAKER, CHARLES FULLER. 1920. What is practical in agriculture. The Philippine Agriculturist **9**: 1–2.

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BAKER, CHARLES FULLER. 1922. Plant breeding in the tropics. The Philippine Agriculturist **10**: 271.

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